CONSTRUCTION NEWS

PERSONALS, ENGINEERING SOCIETIES, INDUSTRIAL NOTES, TRADE PUBLICATIONS.

Supplement to ENGINEERING NEWS. Thursday, April 23, 1903.

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PERSONAL.

Mr. Hector James Hughes has been appointed Assistant Professor of Hydraulics and Sanitary Engineering of Harvard University.

Mr. L. G. White, of the Columbus Edison Co., has been appointed Assistant General Manager of the Columbus Ry. Co., Columbus, O.

Mr. Joseph P. Phillips was recently stated in these columns to be no longer acting as City Engineer of Scranton, Miss., whereas it should have said Scranton, Pa.

Mr. R. C. Galyean has been appointed Signal Engineer of the Waterloo & Cedar Falls Rapid Transit Ry., with headquarters at Waterloo, Ia., succeeding Mr. A. I. Woodring, resigned.

Mr. J. Hastings Bean has been elected President, Mr. Edgar T. Record, Vice-President, and Mr. George M. Atwood, Treasurer of the People's Water Co., of South Paris, Me.

Mr. W. M. Legg, Trainmaster of the Georgia Southern & Florida Ry., has been appointed General Manager of the Georgia, Florida & Alabama Ry., with headquarters at Bainbridge, Ga.

Mr. Alexander Potter, M. Am. Soc. C. E., Assoc. M. Can. Soc. C. E., will remove his office on May 1 to 143 Liberty St., New York, where he will continue his practice as Consulting Civil Engineer.

Mr. G. E. Hale, Director of the Yerkes Observatory, has been awarded the Draper Medal by the National Academy of Sciences for the most important advances in astronomy during the past two years.

Mr. G. S. Leavenworth has been appointed Division Engineer of the Buckhannon & Northern R. R., with headquarters at Fairmont, W. Va. Mr. S. D. Brady, of Parkersburg, W. Va., is Chief Engineer.

Mr. R. E. Lee has resigned as General Superintendent of the Washington Ry. & Electric Co., Washington, D. C., to accept the position of General Superintendent of the Cincinnati Traction Co., of Cincinnati, O.

Mr. J. F. Dickey, Superintendent of Transportation of the Mexican International Ry., has resigned and will take service with the Kansas City, Mexico & Orient R. R. as Superintendent, with headquarters probably at Topolotampo, Mex.

Messrs. Francis C. Tucker, Eldo L. Woolley, Geo. S. Hopkins and Edward J. Robinson have recently organized and incorporated the Black Hills Engineering Co. to carry on a practice in all branches of engineering, with offices in the P. O. Bldg., Deadwood, S. Dak.

Mr. Elmer L. Corthell, M. Am. Soc. C. E., delivered an address on "Argentina" before the American Geographical Society at Mendelssohn Hall, New York, on April 14. Mr. Corthell has recently returned from Argentina, where he was Consulting Engineer to the Ministry of Public Works. He will also deliver lectures on the Argentine Republic in the free lecture course provided by the New York Board of Education. One of these will be delivered at the American Museum of Natural History on Tuesday, April 28, at 8 p. m., and engineers are invited to attend.

Mr. W. B. Tarkington, of Council Bluffs, Ia., has been appointed General Superintendent of the Detroit, Monroe & Toledo Short Line Ry. Mr. Tarkington was previously General Superintendent of the Omaha & Council Bluffs Ry. & Bridge Co., and for several years was with the Chicago & Northwestern Ry.

Mr. J. M. Gruber has been appointed General Superintendent of the Western District of the Chicago, Rock Island & Pacific Ry., with headquarters at Topeka, Kan. He succeeds Mr. H. S. Cable, who has been appointed General Superintendent of the Northern District, with headquarters at Cedar Rapids, Ia.

Mr. Charles C. Schneider, M. Am. Soc. C. E., has resigned his position as Vice-President of the American Bridge Co. He will continue a connection with the company, however, in a consulting capacity. Mr. Schneider is one of the best known bridge engineers in America. He was for many years Chief Engineer of the Pencoyd Iron Works in the Structural Department. Among the best known works of his design is the cantilever bridge of the Michigan Central R. R. at Niagara.

Mr. J. I. Riegel, C. E., who until April 1 was connected with the Delaware, Lackawanna & Western R. R. as Division Engineer at Scranton, Pa., has since that date been acting as Consulting Engineer to the Dunning Engineering Co., of that city, of which company Mr. A. B. Dunning is Manager and Chief Engineer and Mr. A. W. Long, Associate Engineer.

Mr. A. R. Eldridge, M. Am. Soc. C. E., has been appointed Chief Draftsman in the Bridge Department of the Chicago, Burlington & Quincy Ry. Mr. A. E. Lindau has severed his connection with the Bridge Department of the C., B. & Q. and accepted a position in the newly-organized Bridge Department of the Chicago, Rock Island & Pacific, both with headquarters in Chicago, Ill.

Mr. John Doyle, Superintendent of Track of the Pere Marquette R. R., has resigned that position and become connected with the firm of John C. Carland & Co., contractors, of Toledo, O. Mr. Doyle is President of the Roadmasters' Association and a member of the Maintenance-of-Way Association, also President of the Trackmen's Benevolent Association. He had been in the service of the Pere Marquette R. R. for the past 32 years.

OBITUARY.

Mr. Charles F. Parks, Civil Engineer, for many years a member of the firm of Wheeler & Parks, of Boston, died at Bradford, N. H., on April 20, aged 50 years.

Mr. William B. Swan, for many years an Assistant Engineer in the Park Department of New York city, died at his home in the Bronx on April 14, of heart disease.

Mr. Louis Stadt Mueller, Mining Engineer and Chemist, who for many years was in charge of the mineralogical cabinet of the Sheffield Scientific School of Yale University, died in New Haven, Conn., on April 19, aged 84 years.

Mr. Percy M. Clark, Civil Engineer in the employ of the Chicago & Northwestern Ry., was struck and killed by a falling tree while working with a surveying party near Wittenberg, Wis. Mr. Clark had formerly been connected with the Valley Iron Works for several years at Appleton, Wis. He was 26 years of age.

Mr. William R. Arthur, formerly President of the Illinois Central R. R., died on April 20 on his farm near Urbana, Ill., aged 82 years. He was an engineer of ability and built the Marietta & Cincinnati road, after the completion of which he was elected President. From 1858 to 1865 he was General Manager of the Illinois Central. In 1869 he became General Manager of the St. Louis, Iron Mountain & Southern R. R., remaining in that position four years.

Mr. Edward Ludlow Gould, Civil Engineer, died at the residence of his parents in Yonkers, N. Y., on April 16, from an attack of heart failure following an attack of pneumonia. Mr. Gould was the oldest son of Mr. E. Sherman Gould, M. Am. Soc. C. E., and Mrs. Arabella D. Gould, the daughter of the late Dr. E. G. Ludlow. Edward Ludlow Gould was born in Yonkers in 1870, and graduated from the Yonkers High School and the School of Mines, Columbia University, making a brilliant record as a mathematician at the latter institution. After spending a year on a cattle ranch in Colorado, he entered the service of the Union Bridge Co., and for several years he was the assistant to the Chief Engineer in designing several important structures; among these was the plan for a proposed North River bridge. Later Mr. Gould spent two years as an Assistant Engineer in the Yonkers Department of Public Works, and he was an assistant in the U. S. Engineer's office at Santiago, Cuba, until the withdrawal of the American forces from that island. At the time of his death Mr. Gould was in the employ of the Commissioners for securing an increased water supply for the City of New York; in this connection his conspicuous ability as a mathematician had won him rapid promotion. Mr. Gould was a member of the Alpha Delta Phi Fraternity of Columbia University and an ex-member of Troop A.

ENGINEERING SOCIETIES.

COMING MEETINGS.

NATIONAL MUNICIPAL LEAGUE.
April 22, 23, 24. Annual meeting at Detroit, Mich., and Ann Arbor, Mich. Secy., C. R. Woodruff, Philadelphia, Pa.

AIR BRAKE ASSOCIATION.
April 28. Annual convention at Colorado Springs, Colo. Secy., F. M. Nellis, 218 William St., New York city.

NATIONAL ELECTRIC LIGHT ASSOCIATION.
May 26, 27 and 28. Convention at Chicago, Ill. Secy., James B. Cahoon, 136 Liberty St., New York city.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
June 8. Annual convention at Asheville, N. C. Secy., C. W. Hunt, 220 W. 57th St., New York.

AMERICAN FOUNDRYMEN'S ASSOCIATION.
June 9, 10, 11. Annual convention at Milwaukee, Wis. Secy., Richard Moldenke, P. O. Box 432, New York city.

INTERNATIONAL ASSOCIATION OF CAR ACCOUNTANTS AND CAR SERVICE OFFICERS.
June 17, 18. Annual meeting at Quebec, Canada. Secy., L. G. Corcoran, Buffalo, N. Y.

AMERICAN RAILWAY MASTER MECHANICS AND MASTER CAR BUILDERS' ASSOCIATIONS.
June 17 to 24. Annual conventions at Mackinac Island, Mich. Secy., Jos. W. Taylor, Rookery Building, Chicago.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.
June 22 to 26. Annual meeting at Saratoga, N. Y. Secy., Prof. F. R. Hutton, 12 West 31st St., New York city.

AMERICAN WATER-WORKS ASSOCIATION.
June 23 to 26. Annual meeting at Detroit, Mich. Secy., J. M. Diven, Elmira, N. Y.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.
June 29, July 2. Annual convention at Niagara Falls, N. Y. Secy., R. W. Pope, 95 Liberty St., New York.

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION.
July 1, 2, 3. Annual convention at Niagara Falls, N. Y. Secy., C. A. Waldo, Purdue University, Lafayette, Ind.

MASTER CAR BUILDERS AND MASTER MECHANICS' ASSOCIATIONS.—The Executive Committee of Railway Supply Men have issued a circular giving rates, routes, etc., to Mackinac Island, Mich., for the annual conventions, June 17 to June 24. Copies can be obtained by addressing J. Alex. Brown, Secy., 24 Park Place, New York city.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—The monthly meeting for May will be held at the house of the Society, 12 West 31st St., New York, on the evening of Tuesday, May 5. The paper on "Emery Wheels," by Prof. C. H. Benjamin, which was announced for this meeting, has been postponed, and will be presented at the annual meeting of the Society at Saratoga, N. Y., June 23 to 26. At the meeting of May 5 Prof. A. H. Sabin, of New York city, will read a paper on "The Technology of Artistic and Industrial Painting." The author has studied this question in relation to the achievements of the painter's art as presented by the old masters, and is prepared to discuss the dependence of the artist upon the work of the technical man and manufacturer for the production of permanent and lasting effects.—Secy., F. R. Hutton.

IRON AND STEEL INSTITUTE.—The annual meeting will be held at the house of the Institution of Civil Engineers, London, England, on May 7 and 8, 1903. Andrew Carnegie is the President-Elect of the Society; his inaugural address will be delivered at the morning session of May 7, and on the evening of the same day he will hold a reception, together with Mrs. Carnegie. The technical program will include the following papers: "On the Alleged Diffusion of Silicon into Iron," by Mr. J. E. Stead; "On the Influence of Sulphur and Manganese on Steel," by Prof. J. O. Arnold and Mr. G. B. Waterhouse; "On the Open-Hearth Process," by Lt.-Col. Cubillo; "On the Application of Electric Furnaces in Metallurgy," by Mr. A. Keller; "On Hollow Pressed Axles," by Mr. C. Mercader; "On a New Blast Furnace Top," by Mr. A. Sahlin; "On the Manufacture of Portland Cement from Blast Furnace Slag," by Mr. C. von Schwarz; "On the Continuous-process Working on Hematite Iron," by Mr. B. Talbot; "On the Effect of Flue Dust upon the Thermal Efficiency of Hot-Blast Stoves," by Mr. B. H. Thwaite; "On a Specimen of Sussex Cast Iron," by Prof. T. Turner. The past year's Andrew Carnegie Research scholars will report on research work carried out during the year.

The autumn meeting of the Institute will be held at Barrow-in-Furness during the first week in September.—Secy., B. H. Brough, 28 Victoria St., London, S. W.

WESTERN SOCIETY OF ENGINEERS.—At the meeting held in the Society's rooms, Chicago, on April 15, Mr. Richard McCulloch, Assistant General Manager of the Chicago City Ry., presnted a paper on "European Street Railway Practice." He referred to the small mileage of street railways or "tramways" in European cities as compared with American cities of the same size, and remarked that in Europe the street railways have followed the population, while in this country they have been built ahead of the population, with the result of establishing and developing suburban districts. Many of the old cities, especially in continental countries, have narrow, crooked streets and are ill adapted to the development of street railways. In England the right to build street railways must be obtained from the general government, involving tedious and expensive preliminaries. In Germany the work is much easier. In France, however, full details of route, track construction and car equipment must accompany the application for a franchise, and it takes about two years to get the final approval even if there is

no opposition. Improvements introduced during these two years cannot be used without amending the franchise, and as this is a tedious proceeding, much of the work is quite out of date. On the other hand, the city authorities protect the rights of the tramway companies. Mr. McCulloch was, naturally, not in favor of municipally-owned enterprises, and in regard to the low fares often spoken of he explained that these were only for very short distances, passengers paying additional fares after the cars pass certain points. The track is generally of substantial construction and cast-weld joints are being quite extensively used. The deep level underground electric railways of London were briefly alluded to, as were also the light or local railways which are common on the continent of Europe, being built along the country roads and operated by small steam locomotives, "fireless" locomotives and sometimes by electricity. At the present time American capitalists, engineers and manufacturers are doing much for the development and improvement of European street railways.

Prof. W. D. Pence (Purdue University) inquired as to the track construction, and Mr. McCulloch stated that as a rule heavy grooved girder rails are used, laid upon concrete and held together by the rods, but not anchored to the concrete. Where wooden ties are used, the rails are secured by long screws or sometimes by spikes. He also remarked that the surface-contact system at Paris had not proved successful, mainly on account of frequent failures of the contact buttons to be energized, thus leaving the car stalled without current. Horses have also been killed by stepping into pools of water in the street, where these pools were in contact with live contact buttons, the water acting as a conductor. Mr. Tratman (Engineering News) outlined the slow and costly work of obtaining tramway franchises in England, and the heavy track construction.

The program for the remainder of the season is as follows: April 29, "Borings for the Bohio Dam of the Panama Canal," R. C. Smith; May 6, "Railway Maintenance," H. J. Slifer; May 20, "Ferro-Concrete Construction," E. L. Heidenreich; June 3, "Railway Reconnoissance," Willard Beahan, and "Topographical Surveying," W. C. Bunnel; June 17, "The Manufacture of Corn Oil in Illinois," H. S. Bowen.

AMERICAN SOCIETY OF CIVIL ENGINEERS.—At the regular meeting held on the evening of April 15, at the house of the Society, at 220 West 57th St., New York, a paper was presented by Mr. S. W. Turrill, entitled "An Investigation of the Properties of Brick under Different Physical Conditions." The paper, which was printed in the "Proceedings" of the Society for March, 1903, recorded a series of strength tests of brick, using (1) brick in their ordinary condition, (2) brick which was saturated with water, and (3) previously saturated brick which had been heated to a fairly high degree of heat so that the water was all driven out. Tests were made with the material in compression, in tension, in shear and in torsion. One of the principal conclusions of the author was that "reheated" brick, taken to represent brick after having passed through a severe conflagration, was equal, or even slightly superior, in strength to new brick; it is to be noted, however, that about 12% of the reheated brick were rejected by their lack of soundness exhibited on striking with a hammer, and the above conclusion applies only to the brick which satisfied the hammer test.

In discussion, Mr. E. J. McCaustland pointed out that the author did not weigh the brick at different periods during their saturation with water, but only at the close of the soaking, after a period of six weeks in water. Such intermediate weighings would have shown the rate of absorption. He believed that in a period of 48 hours the larger part of the absorption was completed, and that brick tested after that period of soaking would represent more nearly the practical conditions; moreover, in commercial testing it is not usually practicable to give brick more time in water than about 48 hours. He believed also that the tensile strength of brick should be given more prominence than has been done in the past, as brick work in compression very often fails under the tensile stresses induced at certain points in the mass. On the matter of tensile strength he deduced from the author's experiments that the three classes of bricks tested ranked about equal in tension.

It was announced that the topical discussion at the annual convention to be held at Asheville, N. C., on June 8, 1903, would take up the following subjects: Timber Tests, opened by Mr. G. Pinchot, of the Bureau of Forestry; Sewage Purification, opened by Mr. Rudolf Hering; In the Treatment of the Mississippi River is the Levee System Justified; Can Concrete be Rendered Impervious to Moisture, and if so, What is the best Method therefor; What is the Effect of Sea Water on Steel, and on Steel in Combination with Concrete; In view of the Increasing Weights of Rolling Stock, for What Loadings should Railway Bridges be Designed?

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
Apr. 23.	Hydraulic dredge pipe,	Portland, Ore.	Apr. 16
Apr. 23.	Scows, etc	New York, N. Y.	Apr. 16
Apr. 23.	Bulkhead,	Fort Getty, S. C.	Apr. 16
Apr. 23.	Street signs,	St. Mary's, O.	Apr. 16
Apr. 23.	Sewer,	Rockford, Ill.	Apr. 9
	Advertised, Engineering News, Apr. 9.		
Apr. 23.	Buildings,	Cheyenne, Wyo.	Mar. 26
	Advertised, Eng. News, Mar. 26 to Apr. 16.		
Apr. 23.	Dredging,	New London, Conn.	Mar. 26
	Advertised. Eng. News. Mar. 26 to Apr. 23.		
Apr. 23.	Sewer,	New London, Conn.	Apr. 23
	Advertised, Engineering News, Apr. 23.		
Apr. 24.	Street lighting,	Everett, Mass.	Apr. 23
Apr. 24.	Electric light plant,	Columbus, O.	Apr. 23
Apr. 24.	Brkwtr superstructure,	Marquette, Mich.	Mar. 26
	Advertised, Eng. News, Mar. 26 to Apr. 16.		
Apr. 24.	Heating plants,	San Francisco, Cal.	Apr. 9
Apr. 24.	Roads,	Port Townsend, Wash.	Apr. 9
Apr. 24.	Sewers,	Plain City, O.	Apr. 16
Apr. 24.	Pier and rope,	New York, N. Y.	Apr. 16
Apr. 25.	Building,	Ansonia, Conn.	Apr. 16
Apr. 25.	Drains,	Harvard, Ill.	Apr. 16
	Advertised, Eng. News, Apr. 16.		
Apr. 25.	Cement and broken stone,	Boston, Mass.	Mar. 26
	Advertised, Eng. News, Mar. 26 to Apr. 23.		
Apr. 25.	Armored cable, etc.,	Cleveland, O.	Apr. 2
Apr. 25.	Bridge abutments,	Dayton, O.	Apr. 2
Apr. 25.	Artesian well,	Fort Morgan, Ala.	Apr. 9
Apr. 25.	Bridge,	Dayton, O.	Apr. 9
Apr. 26.	Paving,	Vallejo, Cal.	Apr. 2
Apr. 26.	Electric plant,	Denver, Colo.	Apr. 2
	Advertised, Eng. News, Apr. 2 to 30.		
Apr. 27.	Paving,	Lafayette, Ind.	Apr. 2
Apr. 27.	Building,	Richmond, Ky.	Apr. 2
	Advertised, Engineering News, Apr. 2.		
Apr. 27.	Sewers,	Troy, O.	Apr. 16
Apr. 27.	Wells, etc.,	Tacoma, Wash.	Apr. 16
Apr. 27.	Bridge,	Coshocton, O.	Apr. 16
Apr. 27.	Street signs and posts,	New York, N. Y.	Apr. 23
Apr. 27.	Buildings,	Boston, Mass.	Apr. 23
Apr. 27.	Paving,	New York, N. Y.	Apr. 23
Apr. 28.	Building,	Nashua, N. H.	Apr. 23
Apr. 28.	Paving,	New York, N. Y.	Apr. 23
Apr. 28.	Bridge,	Tacoma, Wash.	Apr. 16
Apr. 28.	Sewer system,	Cape May, N. J.	Mar. 26
	Advertised, Eng. News, Mar. 26 to Apr. 23.		
Apr. 28.	Road,	Cape May, N. J.	Mar. 26
	Advertised, Eng. News, Mar. 26 to Apr. 23.		
Apr. 28.	Sewers (104,154 lin. ft.),	St. Louis, Mo.	Apr. 16
Apr. 29.	Building,	St. Louis, Mo.	Apr. 16
Apr. 29.	Buildings,	Brooklyn, N. Y.	Apr. 23
Apr. 29.	Paving,	Brooklyn, N. Y.	Apr. 23
Apr. 29.	Building,	Langdon, N. Dak.	Apr. 23
Apr. 30.	Sewer,	Nashville, Tenn.	Apr. 23
Apr. 30.	Building,	Quincy, Ill.	Apr. 23
Apr. 30.	Ditch,	Lafayette, Ind.	Apr. 23
Apr. 30.	Sprinkling trucks,	New York, N. Y.	Apr. 23
Apr. 30.	Sewer,	Long Island City, N. Y.	Apr. 23
Apr. 30.	Portland cement, etc.,	New York, N. Y.	Apr. 23
Apr. 30.	Stone,	Portland, Ore.	Mar. 26
	Advertised, Eng. News, Mar. 26 to Apr. 23.		
Apr. 30.	Rock removal,	Norfolk, Va.	Apr. 2
	Advertised, Eng. News, Apr. 2 to 16.		
Apr. 30.	Cement, sand, etc.,	Washington, D. C.	Apr. 2
	Advertised, Eng. News, April 2 to 30.		
Apr. 30.	Building,	Washington, D. C.	Apr. 9
Apr. 30.	Supplies, etc.,	New York, N. Y.	Apr. 9
	Advertised, Eng. News, Apr. 9 to 23.		
Apr. 30.	Buildings,	Fort Lincoln, N. Dak.	Apr. 9
Apr. 30.	Dimension timber,	Ottawa, Ont.	Apr. 9
Apr. 30.	Water-works,	Strathroy, Ont.	Apr. 16
May 1.	Building,	Toledo, O.	Apr. 16
May 1.	Sewer extension,	Fort Sam Houston, Tex.	Apr. 16
May 1.	Sewer system,	Connersville, Ind.	Apr. 16
	Advertised, Eng. News, Apr. 16 and 23.		
May 1.	Sewer,	Aberdeen, S. Dak.	Apr. 16
May 1.	Paving,	Cincinnati, O.	Apr. 16
May 1.	Building,	Newcastle, N. B.	Apr. 16
May 1.	Sewer,	San Antonio, Tex.	Apr. 16
May 1.	Paving,	Watertown, N. Y.	Apr. 16
	Advertised, Eng. News, Apr. 16 and 23.		
May 1.	Building,	Litchville, N. Dak.	Apr. 16
May 1.	Building,	Springfield, O.	Apr. 16
May 1.	School,	Le Sueuer, Minn.	Apr. 9
May 1.	Sewer,	Cheyenne, Wyo.	Apr. 2
	Advertised, Eng. News, Apr. 2 to 23.		
May 1.	Military supplies,	West Point, N. Y.	Apr. 2
	Advertised, Eng. News, April 2 to 30.		
May 1.	Dredging,	Boston, Mass.	Apr. 2
	Advertised, Eng. News, April 2 to 30.		
May 1.	Street cleaning,	Washington, D. C.	Apr. 2
	Advertised, Eng. News, Apr. 2 to May 14.		
May 1.	Bridge,	Indianapolis, Ind.	Apr. 9
May 1.	Log dam,	Hartford, Vt.	Apr. 9
	Advertised, Engineering News, Apr. 9.		
May 1.	Sewer,	Harriman, Tenn.	Apr. 23
May 2.	Ditching,	Crookston, Minn.	Apr. 9
May 2.	Sinking wells,	Cheyenne, Wyo.	Apr. 2
	Advertised, Eng. News, Apr. 2 to 30.		
May 4.	Building,	Memphis, Tenn.	Apr. 2
	Advertised, Eng. News, Apr. 2 and 9.		
May 4.	Building,	Abbeville, Ga.	Mar. 26
May 4.	Bridge,	Quincy, Cal.	Mar. 26
May 4.	Building,	Fort Brady, Mich.	Apr. 9
May 4.	Sewer and water system,	St. Paul, Minn.	Apr. 9
May 4.	Sewer and pumping station,	Ardmore, Pa.	Apr. 9
	Advertised, Eng. News, Apr. 9 to 30.		
May 4.	Building,	Albany, Ga.	Apr. 16
May 4.	Macadamizing,	Pequannoc, N. J.	Apr. 16
	Advertised, Eng. News, Apr. 16 to 30.		
May 4.	Wiring and plumbing,	Fort Douglas, Utah.	Apr. 16
	Advertised, Eng. News, Apr. 16 to 30.		
May 4.	Sewer,	Glenville, O.	Apr. 16
May 4.	Paving,	Napoleon, O.	Apr. 23
May 4.	Building,	Fresno, Cal.	Apr. 23
May 4.	Sewer,	Long Beach, Cal.	Apr. 23
May 4.	Sewer system,	Merion, Pa.	Apr. 23
May 4.	Bridges (2),	Montesano, Wash.	Apr. 23
May 4.	Steel bridge,	Honolulu, H. I.	Apr. 23
May 4.	Bridge,	Corning, N. Y.	Apr. 23
	Advertised, Eng. News, Apr. 23 and 30.		
May 4.	Bridge,	Vicksburg, Miss.	Apr. 23
May 4.	Bridge,	Salem, Ind.	Apr. 23
May 5.	Sewer,	Belleville, Ill.	Apr. 23
	Advertised, Engineering News, Apr. 23.		
May 5.	Bridge,	Harrisburg, Pa.	Apr. 23
May 5.	Stone dock,	New Rochelle, N. Y.	Apr. 23
	Advertised, Eng. News, Apr. 23 and 30.		
May 5.	Traveling crane,	Washington, D. C.	Apr. 23
	Advertised, Engineering News, Apr. 23.		
May 5.	Dredging, etc.,	New York, N. Y.	Apr. 23
May 5.	Building,	New York, N. Y.	Apr. 23
May 5.	Macadam road,	Versailles, Ind.	Apr. 23
May 5.	Sewers,	Beaumont, Tex.	Apr. 16
	Advertised, Eng. News, Apr. 16 to 30.		
May 5.	Paving,	Beaumont, Tex.	Apr. 16
	Advertised, Eng. News, Apr. 16 to 30.		
May 5.	Building,	Jamestown, N. Dak.	Apr. 16
May 5.	Sewer,	Olathe, Kan.	Apr. 16
May 5.	Drawbridge,	Astoria, Ore.	Apr. 16
May 5.	Building,	Greensboro, N. C.	Apr. 9
May 5.	Pumping plant,	Atlantic City, N. J.	Apr. 9
	Advertised, Eng. News, Apr. 9 and 16.		
May 6.	Pier repairing,	Grand Rapids, Mich.	Apr. 9
	Advertised, Eng. News, Apr. 9 to May 7.		
May 6.	Building,	Norwich, Conn.	Apr. 2
	Advertised, Eng. News, Apr. 2 and 9.		
May 6.	Generators, engines, etc.,	Rochester, N. Y.	Apr. 23
May 7.	Building,	Cleveland, O.	Apr. 23
May 7.	Laying water pipe, etc.,	Dexter, Me.	Apr. 23
	Advertised, Eng. News, Apr. 23 and 30.		
May 7.	Water-works,	Uppingham, Eng. (Foreign)	Apr. 23
May 7.	Bridges,	Columbus, O.	Apr. 9
May 8.	Bridge work,	Pawnee, Okla. Ter.	Apr. 23
May 8.	Extending water system,	Cheyenne, Wyo.	Apr. 9
	Advertised, Eng. News, Apr. 9 to May 7.		
May 8.	Heat'g and plumbing,	Grand Rapids, Mich.	Apr. 16
May 8.	Heating,	Shakopee, Minn.	Apr. 16
May 9.	Sewerage,	Bridgend, Eng. (Foreign)	Apr. 23
May 10.	Water-works,	Corvallis, Ore.	Apr. 23
May 11.	Building,	Cleveland, O.	Apr. 23
May 11.	Castings,	Washington, D. C.	Apr. 23
May 11.	Paving,	Weston, O.	Apr. 23
May 11.	Tail-race tunnel,	Toronto, Ont.	Apr. 2
	Advertised, Eng. News, Apr. 2 to May 14.		
May 11.	Approaches,	Elmira, N. Y.	Apr. 16
	Advertised, Eng. News, Apr. 16 and 23.		
May 12.	Paving,	Alexandria, La.	Apr. 16
	Advertised, Eng. News, Apr. 16 and 23.		
May 12.	Bridge work,	Nebraska City, Neb.	Apr. 16
May 12.	Gas holder,	Copenhagen, Denmark.	Mar. 26
	Advertised, Engineering News, Mar. 26.		
May 12.	Pumping engine,	Toronto, Ont.	Mar. 19
	Advertised, Eng. News, Mar. 19 to April 9.		
May 12.	Bridges (3),	Magnolia, N. J.	Apr. 9
	Advertised, Eng. News, Apr. 9 and 16.		
May 12.	Buildings,	Beaumont, Tex.	Apr. 23
May 12.	Building,	Washington, Ga.	Apr. 23
May 14.	Paving,	Norfolk, Va.	Apr. 9
	Advertised, Eng. News, Apr. 9 and 16.		
May 14.	Building,	Hartford, Conn.	Apr. 16
	Advertised, Eng. News, Apr. 16 and 23.		
May 14.	Building,	Johnson City, Tenn.	Apr. 23
May 15.	Sewage purification plant,	Des Moines, Ia.	Apr. 23
May 15.	Bridge,	Grand Rapids, Mich.	Apr. 23
	Advertised, Eng. News, Apr. 23 to May 14.		
May 15.	Steel tank, etc.,	Richmond, Va.	Apr. 23
May 15.	Dredging,	New London, Conn.	Apr. 16
	Advertised, Eng. News, Apr. 16 to May 14.		
May 15.	Dredging,	New York, N. Y.	Apr. 16
	Advertised, Eng. News, Apr. 16 to May 14.		
May 15.	Drainage,	Tomah, Wis.	Apr. 2
	Advertised, Eng. News, Apr. 2 to 30.		
May 16.	Electric plant,	Los Angeles, Cal.	Apr. 23
May 18.	Bridge,	Fredericton, N. B.	Apr. 2
	Advertised, Engineering News, Apr. 2.		
May 18.	Garbage plant,	Shreveport, La.	Apr. 23
May 18.	Paving,	Toledo, O.	Apr. 23
May 19.	Gravel road,	Bluffton, Ind.	Apr. 23
May 19.	Building,	Elizabethtown, N. C.	Apr. 23
May 19.	Gunboats (2),	Washington, D. C.	Apr. 2
May 19.	Bridge,	Milwaukee, Wis.	Apr. 16
May 20.	Sewage and drainage,	Argentina (Foreign)	Apr. 23
May 21.	Pumping plant, etc.,	Martinsburg, W. Va.	Apr. 23
	Advertised, Eng. News, Apr. 23 and 30.		
May 21.	Lock irons, Wheeling,	W. Va.	Apr. 23
	Advertised, Eng. News, Apr. 23 to May 21.		
May 22.	River improvement,	Philadelphia, Pa.	Apr. 23
	Advertised, Eng. News, Apr. 23 to May 21.		
May 22.	Meters, engines, etc.,	Washington, D. C.	Apr. 23
	Advertised, Eng. News, Apr. 23, 30, May 14, 21.		
May 25.	Electric wiring,	Lockport, N. Y.	Apr. 23
May 25.	Rock excavation,	Boston, Mass.	Apr. 23
	Advertised, Eng. News, Apr. 23, 30, May 7, 21.		
May 27.	Sewerage,	Argentina (Foreign)	Apr. 23
May 30.	Harbor improvements,	Jamaica.	Apr 2
	Advertised, Eng. News, Apr. 2 to May 14.		
Jun. 1.	Coaling plant,	Alaska (U. S. Pos.)	Apr. 16
Jun. 1.	Bridge,	Gettysburg, Pa.	Apr. 23
Jun. 6.	Sewer system,	Washington, D. C.	Apr. 23
	Advertised, Eng. News, Apr. 23 to May 14.		
Jun. 8.	Barracks,	Alaska (U. S. Poss.)	Apr. 23
Jun. 13.	Railway materials,	Siam	Feb. 5
Jun. 15.	Breakwater,	Manila, P. I.	Mar. 12
	Advertised, Eng. News, Mar. 12 to May 14.		
Jun. 18.	Street lighting,	Portland, Ore.	Apr. 23
Jun. 30.	Fencing,	Gettysburg, Pa.	Apr. 16
July 1.	Electric lighting, etc.,	Rangoon, India	Feb. 5
July 1.	Railway,	Argentina (Foreign)	Apr. 23
May 2, '04.	Railway,	South Australia.	Feb. 5

NOTICE TO OUR READERS.—Although every effort is made to verify the reports of new construction before their publication in the Supplement, complete verification is not always possible. When it becomes necessary to publish news whose accuracy has not been verified, the phrases "according to reports," "it is stated," or other expressions of similar import are attached to the item. We will be obliged to our readers if they will send us prompt reports of any work in which they may be interested, and also to call our attention to any important errors that may be noticed in these columns, and give us the correct details. When writing to persons and companies mentioned in this department, our readers will confer a favor by mentioning Engineering News as the source of their information.

RAILWAYS.

(For foreign railways, see under "Foreign Contracts and Export News.")

ARLINGTON & PACIFIC.—J. E. Simmons, Pres., states that work will commence on a line south via Condon, Mayville and Fossil, Ore., crossing the Cascade Mts. at McKenzie Pass, and running to Eugene and the mouth of the Sisular.

ASHVILLE & RUTHERFORDTON.—Surveys now extend to a point between Fairview and the top of Hickory Nut Gap, in North Carolina. Engr. Dalton was in charge.

BELLINGHAM BAY & BRITISH COLUMBIA.—Surveys on line from terminus at Maple Falls, Wash., eastward through Okanogan county, are propressing rapidly. Party now working 35 miles south of Colville reservation, and expect to have a line through the reservation to Maple Falls by Aug. 1. J. J. Donovan is Engr., Whatcom, Wash.

CANADIAN PACIFIC.—Improvements at Revelstroke, B. C., and vicinity planned and will cost nearly $140,000. New station included. Directors have voted appropriation. Gen. Supt. Marpole, Vancouver, B. C., in charge.

CHICAGO, ROCK ISLAND & PACIFIC.—Company said to be planning to at once parallel the H. & T. C. Ry., from Dallas, Tex., to Corsicana, with another track. W. E. Dauchy is Ch. Engr., Chicago, Ill.

CHICAGO & INDIANA AIR LINE.—Granted franchise in South Bend and Michigan City, Ind., recently; is now building from South Bend to Chicago, and has decided to extend its line through Southern Michigan, connecting

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

Edwardsburg, Cassopolis, White Pigeon and Sturgis, Mich., and Fayette, O. H. H. Hanna, Cleveland, O., and W. Osgood Orton, South Bend, are interested.

COLORADO.—Company capitalized at $1,000,000 will build proposed road from Central City to Yankee, Clear Creek county, and work will start this month, it is said. Road will traverse ore section. Financing not yet completed. John C. McShane, Central City, is Pres.; Herman Sturms, Denver, is Vice-Pres., and Geo. P. Stuart, Alice, is Second Vice-Pres.

DES MOINES & SOUTHERN.—Bids were received April 10 for grading, and will soon be announced. Des Moines, Ia., is company's headquarters.

DURHAM & CHARLOTTE.—Engineers still at work on surveys; now located near Chatham, N. C., where shops will likely be erected.

FARMERSVILLE & SOUTHERN.—H. Rohwer, Ch. Engr., Missouri Pacific Ry., St. Louis, Mo., states that work will be started on this road at an early date and be hurried through. The line will run from Farmersville to a connection with the Eldorado & Bastrop Ry., about 25 miles distant. Location survey not yet made.

INTERNATIONAL & GREAT NORTHERN.—Company contemplates building an extension of its Ft. Worth Division from Spring northeast via Kountze, Tex., and Leesville, La., to Alexandria, connecting with the T. & P. Ry. and the St. L., I. Mt. & S. Ry. Final location made from Houston to Beaumont, 84 miles, but contracts have not been let pending a settlement of the franchise question with the city of Beaumont. At present the council has been enjoined by property-owners from granting the franchise. J. D. Trammell is Ch. Engr., Palestine, Tex.

KANSAS CITY, MEXICO & ORIENT.—It is reported that the Panhandle & Gulf Ry. (K. C., M. & O.) will soon begin work on an extension from San Angelo south via Laredo down the valley of the Rio Grande to Brownsville, Tex. This will involve the construction of over 500 miles of line. This extension was chartered some time ago. M. P. Paret is Ch. Engr., Kansas City, Mo.

LITTLE ROCK, HOT SPRINGS & WESTERN.—Directors have decided to begin construction of extension to Mena, 80 miles west from Hot Springs, Ark., within 30 days. W. S. Mitchell is Secy., Little Rock, Ark.

LOUISIANA & ARKANSAS.—Tracks on the extension from Stamps to Hope, Ark., have been laid for a distance of 15 miles, and grading is under way on remaining 28 miles. Work will be completed by May 15.

LOUISVILLE & NASHVILLE.—Sparks & Williams, Livingston, Ky., who have the contract for 30 miles of road south of Corbin, have started to break ballast for the new road. It will take five months to complete the contract.

McMINNVILLE, WOODBURY & NASHVILLE.—John M. Gaut, Nashville, Tenn., informs us under date of April 3, that surveys and rights of way are secured through Warren, Canon and Rutherford counties, and that capital is also provided for. Mr. Gaut also says that a charter will be taken out in 10 days; that contracts will be let soon; that officers are not yet chosen, and that the line will be operated by steam and electricity, and be about 80 miles long.

NAVY YARD.—The Bureau of Yards and Docks, Navy Dept., received the following bids on April 18 for constructing about 8,100 ft. of temporary track in the Charleston, S. C., navy yard: (1) entire track system complete; (2) deduct from (1) if all trestle is omitted and earth embankment of same width at top and same side slopes as required for embankment on solid ground, deposited on brush mattress, is substituted in lieu thereof; (3) deduct from (1) if another weight of rail weighing not less than 56 lbs. to the yard, or relay rail of 80 lbs. or less is substituted for the new 80-lb. rail specified; (4) in case (1), (2) and (3) exceeds the estimated cost bids under this item embrace modifications in construction which will reduce cost: Penn Bridge Co., Beaver Falls, Pa., (1) $41,-672, (2) $11,000, (3) $2,000; New York Continental Jewell Filtration Co., New York, (1) $32,500 (accepted), (3) $1,-500, (4) $30,000; Simons & Mayrant, Charleston, (1) $39,-994, (3) $37,994, (4) $30,974.

NEWTON & NORTHWESTERN.—Contract for grading the line between Boone, Ia., and Metz, 48 miles, let to Foley Bros., St. Paul, Minn. Work begins at once.

NORTH EAST TEXAS RY.—R. A. Gray, Ch. Engr., Texarkana, Tex., writes that the Redwater Construction Co., Redwater, Tex., has the contract for building 37 miles of this road, and has completed 14 miles of track, and graded five miles further. The line is located for a distance of 55 miles, and will be 168 miles long, and touch at Texarkana, Longview, Daingerfield and Paris. Capital partly secured. G. Miniz is Pres., Texarkana.

NORTHERN PACIFIC.—Company said to be figuring on construction of a line into Noorth Fork county, Idaho. Surveyors will soon run preliminary line. W. L. Darling is Ch. Engr., St. Paul, Minn.

ONTARIO.—Charter asked of Parliament for a railway from Mascan to Parrsboro, thence to Truro. Reports from Truro state that W. H. McGee and E. Gillespie, representing the Standard Coal Co., are fostering the project.

OREGON & PACIFIC.—Directors will meet to complete arrangements for building the line from Grant's Pass, Ore., to Crescent City. It is said that work will commence within 60 or 90 days, depending on the time required to secure right of way. Arrangements for terminals at both points will be made at once by Mgr. Wood. A. C. Hough, Grant City, is interested.

PENNSYLVANIA R. R.—We are informed that the contracts for constructing the double-track road from Glen Lock to Thorndale, Pa., are let as follows: Reiter, Curtis & Hill, Arcade Bldg., Philadelphia, Glen Lock section; Gonder & Brownsack, Eddystone, Pa., Shiproad section; P. P. Brendlinger, Arcade Bldg., Phila., Bradford Hills section; Pinkerton Construction Co., 41 South 15th St., Phila., Downingtown section; P. McManus, 224 North 32d St., Phila., Thorndale section; Sparks & Evans, 14 South Broad St., Phila., Valley Creek arches; Smith Construction Co., Pennsylvania Bldg., Phila., grading on Valley Creek section. Entire work requires about 1,650,000 cu. yds. excavation.

PORTLAND, VANCOUVER & YAKIMA.—I. N. Gray, Pres., Vancouver, Wash., writes that the contract for the cut-off, reducing grade into Vancouver, has been let to the Pacific Coast Construction Co., Portland, Ore. It will be 3¼ miles long. F. M. Kettenring, is Ch. Engr., Vancouver.

ST. LOUIS & SAN FRANCISCO.—Reported that Jas. F. Hinckley, Ch. Engr. of Construct. St. L. & S. F. Ry., in company with contractors, Johnson Bros., is now making trip over the projected line of railway from San Antonio, Tex., to Brownsville, about 275 miles. Several surveys have heretofore been made on this route. The Ft. W. & R. G. Ry. (Frisco) has just completed an extension from Brownwood to Brady, and is very soon to let a contract for constructing extension from Brady south in direction of San Antonio, as far as Mason. The above is indication that the "Frisco" intends very soon to continue its line south from San Antonio to Brownsville and perhaps to Tampico, Mexico. Company's headquarters are at St. Louis, Mo.

SEABOARD AIR LINE.—J. W. Bushnell, Ch. Engr. Construction, stated, while in Birmingham, Ala., on April 3, that the company was then ready to contract for the grading within that city's limits in connection with yard improvements. New shops will be built.

TEXAS.—Our correspondent informs us as follows: In addition to the lines of railway authorized to be consolidated in Texas by the 28th legislature, whose regular session was recently adjourned, there were authorized to be consolidated the following lines of railway, which consolidation bills have been approved by the Governor:

CHICAGO, ROCK ISLAND & GULF RY. (which has now a line practically completed from Ft. Worth to Dallas, 32 miles), is authorized to purchase and consolidate with the Chicago, Rock Island & Texas Ry., from Red River to Ft. Worth, 92 miles, and from Bridgeport to Graham, 55 miles; the Chicago, Rock Island & Mexico Ry., from Texahoma to Bravo, via Dalhart, 92 miles; and the Choctaw, Oklahoma & Texas R. R., from Texola to Amarillo, 111 miles. The C., O. & T. Ry. is now under construction from Amarillo west to a connection with the Rock Island-El Paso route at Tucumcarri, New Mexico, about 110 miles, 70 miles of which are in Texas. The C., R. I. & T. Ry. has just completed the location of an extension from Graham west, via Throckmorton to Haskell, about 70 miles, and it is thought that construction will begin on this extension within the year. The consolidated lines will appear under the name of the C., R. I. & G. Ry. The charter for this line, filed in 1902, authorized the construction of an extension from Dallas to Galveston, about 295 miles, but the recent purchase of the Houston & Texas Central R. R. by the Rock Island interests makes this unnecessary in order for the Rock Island traffic to reach the Gulf of Mexico on its own rails. However, this extension was entirely located and it is stated that soon a single track will be insufficient to carry the traffic when it is proposed to construct along the new located line, which shortens the distance to the Gulf from Dallas about 20 miles. H. B. Hovey is Gen. Supt. C., R. I. & G. Ry., Ft. Worth.

GULF, COLORADO & SANTA FE RY. authorized to purchase and consolidate with the Gulf, Beaumont & Kansas City Ry., from Beaumont to Rogan, 63 miles, and the Gulf, Beaumont & Gt. Northern Ry., from Rogan to San Augustine, 58 miles. The latter railway has now under construction an extension from San Augustine to Center, 20 miles, and it is proposed to extend the line still farther north in the near future, probably to Shreveport. W. C. Nixon is Gen. Mgr., and C. F. W. Felt is Ch. Engr. G., C. & S. F. Ry., Galveston.

ST. LOUIS SOUTHWESTERN RY. OF TEXAS, authorized to purchase and consolidate with the Texas & Louisiana R. R., from Lufkin to Monterey, 22 miles. The St. L. S. W. Ry. of Texas amended charter authorizes it to extend this line southeast via Newton to the Sabine River, with branches to Beaumont and Orange. Arrangements have been made to construct at once an extension from Gatesville to Hamilton, 35 miles. W. E. Green is Gen. Supt., and M. L. Lynch, Ch. Engr., Tyler.

SOUTHERN KANSAS RY. OF TEXAS, authorized to purchase and consolidate with the Pecos & Northern Texas R. R., from Amarillo to Texico, 95 miles; and with the Pecos River R. R., from Texas-New Mexico line to Pecos City, 65 miles. The S. K. Ry. of Texas now extends from the Texas-Oklahoma line to Washburn, 115 miles. Avery Turner is Gen. Mgr., Amarillo.

TRANS-CANADA.—C. E. Perry, C. E., has returned to Quebec, Que., from Norway House, on the Nelson River, where he has been in charge of the surveying party engaged in exploratory and location work for this proposed road. The route found is comparatively level. To the east of the crossing of the Nelson River a straight line for 100 miles is possible; through the existence of Warren Island, the bridging of Nelson River will be easily accomplished.

WASHINGTON.—The Northwest Coal & Coke Co., Louis Ernst, Pres., has placed bonds for building 17 miles of new road for connecting the new coal fields with the Crows Nest Division. Donald McLeod, Nelson, B. C., has the contract.

WESTERN MARYLAND.—Contract for constructing tidewater terminals in Baltimore, Md., let to Degnon & McLean Co., and work has begun.

WESTERN PACIFIC.—Surveyors started work on this road in Stockton, Cal., on April 5. The party will proceed northward toward Sacramento when finished. Geo. S. Dillman, San Francisco, is Ch. Engr., and Chas. S. Rodgers, Res. Engr., is in charge of surveys.

YAKUTAT & SOUTHERN.—Wash.—Preliminary work begun; actual work to commence as soon as snow is off the ground.

YAZOO & MISSISSIPPI VALLEY.—It is announced that after spending nearly a million dollars on unsuccessful engineering work on the Anding Cut, the company has decided to abandon the work and build a new line around Memphis, Tenn. The new line will be built via Eden and Bentonia. W. W. Hayden is Asst. Engr., Memphis.

ZANESVILLE, MARIETTA & PARKERSBURG.—W. S. McFetridge, Asst. Ch. Engr., Parkersburg, W. Va., informs us that this road will not run through Marietta, O., as stated in our issue of April 9, but will go about 19 miles southwest of that city; also that the river to be bridged near Parkersburg is the Ohio and not the Wabash River. Mr. McFetridge is Asst. Ch. Engr. of the Little Kanawha R. R., of which this road is a part.

NEW INCORPORATIONS AND CHARTERS.

BOWMAN CREEK RY.—W. Va.—To build from Boomer Station, Fayette county, to junction with Gauley and Great Kanawha Rivers, with such branches, spurs and sidings as necessary; capital, $10,000; principal office, Cleveland, O.; incorporators, Gustav Van Deusteln, W. B. Stewart and R. H. Crowell, all of Cleveland.

CHICAGO GREAT WESTERN.—Ill.—Capital, $25,000; line to run from north line of Cook county to south line of Kankakee county; incorporators, John T. Evans, A. Z. Kinsburg and W. E. Phillips, all of Chicago.

BLACKWELL, BEAUMONT & SOUTHERN.—Okla.—To construct a 100-mile line from Blackwell to El Reno; capital, $5,000,000; incorporators, T. S. Chambers, D. S. Rose and others.

STREET AND ELECTRIC RAILWAYS.

(For foreign street railways, see under "Foreign Contracts and Export News.")

BANGOR, ME.—Electric line for passenger and freight service in Washington county proposed. Charter granted. Line will run through Machias, East Machias, Cutter and Trescott to Lubec, some 40 or 50 miles.——Ground broken on electric road from Waterville to Oakland; work to be finished by June 20. A. F. Gerald, Fairfield, is interested.

PORTLAND, ME.—F. J. Ilsley writes that he made a preliminary survey in the town of Cape Elizabeth, Me., for an electric line six miles long, which, if built, will be an extension of the Portland R. R. There is no intention of building at present, the purpose of the survey being to obtain particulars in case of future demands for the extension.

HARTFORD, CONN.—The general assembly has extended the franchises and rights of the Worcester & Connecticut Eastern Ry. for a period of two years and authorize building double tracks.

NEW HAVEN, CONN.—There is talk of the N. Y., N. H. & H. R. R. converting its Harlem River branch into a high-power electric line, connecting with its trolley system running from Stamford, Conn.

ALBANY, N. Y.—The Union Traction Co. is granted authority by State R. R. Commissioners to build its proposed electric line from Batavia to Lockport, some 40 miles.——The Westchester Traction Co., Ossining, has been authorized by the commissioners to increase its capital stock from $300,000 to $1,500,000. Company intends building extension to Port Chester.——Commissioners authorize increase of Buffalo, Dunkirk & Western R. R. Co.'s capital stock from $385,000 to $3,500,000. Proposed road will connect Westfield and Buffalo, via Dunkirk, and be 70 miles long. W. J. Connors, Buffalo, is interested.

SCHENECTADY, N. Y.—The project to construct a line of the local railway system between this city and Rotterdam Junction is likely to be carried through.

TICONDEROGA, N. Y.—The Ticonderoga Machine Works wants the names and addresses of parties who will furnish estimates for constructing an electric railway.

ST. MARY'S, W. VA.—Council grants franchise to Williamstown & Moundsville Ry. Co., C. S. Wagner, Wheeling, Pres.

MOUNDSVILLE, W. VA.—Wheeling Traction Co. applies for franchise for extension of its line in this place.

GREENVILLE, S. C.—Dr. George E. Coughlan, Indianapolis, is here in the interest of the proposed trolley line from this town to Anderson.

CHATTANOOGA, TENN.—The Rapid Transit Co. will likely build the extension from the Alton Park line to Rossville this summer. S. W. Divine is Vice-Pres.

NASHVILLE, KY.—A bill has been introduced authorizing De Kalb county to subscribe $150,000 to the proposed interurban electric railway.

LOUISVILLE, KY.—The Ohio Valley Traction Co., which proposes building an electric line from this city to Louisville, will be given the right of way into this city, provided it buys and dedicates to the city enough property on Maiden Lane to make the street 50 ft. wide. E. F. Lawman, Civil Engr., is interested.

COLUMBUS, O.—Ex-Gov. Bushnell has taken out incorporation papers for the proposed Springfield, Troy & Piqua Ry.; capital stock, $700,000.

CLEVELAND, O.—Organization of the Youngstown & Ohio River Ry. & Light Co. effected; T. W. Hill, Pres.; Will Christy, Vice-Pres., and M. P. Goodman, Secy., all well-known local men. Work will start as soon as possible and construction hurried through. Right of way between Lisbon and Salem mostly secured; location of power house, Teegarden, midway between those points. New road will be 33 miles long, and carry freight and passengers. Capital stock, $10,000; but will be increased immediately to $1,500,000.——Stockholders of Eastern Ohio Traction Co have ratified the plan of issuing $300,000 stock. With the additional funds improvements will be carried out, additional power installed at Gates Mills and new equipment purchased.

GEORGETOWN, O.—C. M. Gordon, Ch. Engr. Cincinnati, Georgetown & Portsmouth R. R., writes that 42 miles of the company's road have been completed; J. P. Pendor, Georgetown, is the contractor. The road now has 30 electric passenger coaches, 100 freight cars and 10 locomotives; it will be operated by steam and electricity. The completed line will run between the points named and West Union, and be 100 miles long. A. W. Comstock, Detroit, Mich., is Pres.

MARYSVILLE, O.—Commissioners have granted a 20-year franchise to the Toledo, Columbus, Springfield & Cincinnati Electric Ry., to operate through Union county, to be completed April 1, 1904. Part of the road is already built.

SPRINGFIELD, O.—J. H. Abbott, Ch. Engr. Great Northern Construction Co., Springfield, informs us that construction on the Urbana, Bellefontaine & Northern Ry. is under way between Urbana and Bellefontaine, 18 miles.

FRANKFORT, IND.—We are informed that surveys are completed and electrical report made on the proposed line of the Frankfort & Logansport Traction Co., and some rights of way are secured. The financing is not yet completed and no contracts will be awarded until that work is done. The road will run through Avery, Middlefork, Burlington, Deer Creek and Darwin, 37 miles, and will be an electric. W. H. Coulter is Pres.; W. P. Sidwell, Secy., both of Frankfort; and Walter Ball, Chicago, is Ch. Engr.

INDIANAPOLIS, IND.—The Kokomo, Marion & Western Traction Co., Kokomo, will increase its capital stock from $10,000 to $1,000,000. Indiana Interurban Construction Co., Kokomo, connected with the first-named, has filed articles with $20,000 capital stock, and will build a road from Kokomo to Marion, Converse and Wabash, a distance of about 60 miles. George J. Maratt is Pres. of the railway company and is interested in the construction company.

LA GRANGE, IND.—Bloomfield township has voted $16,000, Clay $6,000, and Newbury $10,000 to aid the construction of an electric railway by the St. Joseph Valley Traction Co. through the townships. H. E. Bucklin is Pres. of the company.

SOUTH BEND, IND.—Council has voted a franchise to the Chicago & Air Line Electric Ry. for lines in this city. The road is backed by J. B. Hanna and C. M. Stone, Cleveland, O.

SHEBOYGAN, WIS.—Work will soon be started on the Sheboygan & Elkhart Lake Ry. & Electric Co.'s line from this place to Sheboygan Falls, Plymouth, Crystal Lake and Elkhart Lake, 20 miles, and on the branch to Waldo, 10 miles, by the James H. Collins Co., Chicago.

WAUSAU, WIS.—The council has granted a franchise to the Wisconsin Valley Ry. & Power Co. for an electric line.

AUDUBON, IA.—The project to build an electric road between Council Bluffs and Des Moines is meeting encouragement. A committee of Harlan citizens, with Mayor J. A. Nash, chairman, is conferring with the promoters in Des Moines regarding their plans.

KIMBALLTON, IA.—Local papers state that a preliminary survey for the interurban railway between Manning and this place has been made and show a cost of $9,000 per mile.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

DEADWOOD, S. DAK.—Preliminary survey for proposed electric road between this city and Spearfish completed April 10 by the Black Hills Engineering Co., P. O. Bldg., Deadwood; two routes under consideration; length of shortest, 13.6 miles. Line will be built by Black Hills & Spearfish Valley Electric Ry. Co., organized recently by Spearfish men.

ST. LOUIS, MO.—T. F. Sneed, Pres. St. Louis, Hillsboro & Southern R. R., Wainwright, St. Louis, writes that the route has been surveyed and right of way obtained for the road named, which will be an electric, 40 miles long. Construction has been started in Jefferson county and will start about May 1 in St. Louis county; construction capital secured. Water power is used to generate electricity; long-distance transmission; max. grade, 1-78%; long curves. C. D. Bennett, Webster Grove, Mo., is Ch. Engr.

TEXARKANA, TEX.—R. A. Gray, Texarkana, writes that the Texarkana Light & Traction Co.'s line has been completed and is now operating for about four miles; six miles more to build; all in this city. J. S. Tritle is Supt.

SEGUIN, TEX.—A. J. Dull, Harrisburg, Pa., and Tom Pierce, Boston, are here taking initiatory steps toward connecting Seguin with the International & Great Northern and the Katy by an electric line for freight and passenger purposes.

ALAMAGORDO, N. MEX.—F. M. Avis, of this place, is interested in proposed local electric railway. Financial arrangements reported made for early construction.

ALAMAGORDO, N. MEX.—Alamagordo St. Ry. Co., organized with $60,000 capital stock, to build and operate a street railway and electric light system. Arthur P. Jordan, Wm. Hodge and Thaddeus H. Clayford, Alamagordo, are interested.

OLYMPIA, WASH.—Preliminary work on proposed new electric railway between Olympia and the West Side will be commenced at once by the Capital City Traction Co.

ORIENT, WASH.—The proposed electric railway from the falls in the Kettle River, near Marcus, to the Pierre Lake district, will be constructed this summer, it is reported. Dr. H. L. Thomson, E. L. Tate and F. C. Robertson, Spokane, and C. E. Brooks, Marcus, are promoters.

SEATTLE, WASH.—Reports state that work on the interurban line between Seattle and Everett will be commenced within 60 days. The franchise was secured by F. E. Sander, who is representative of J. E. MacMurray, of Chicago, who is now in the city.

SPOKANE, WASH.—The Coeur d'Alene & Spokane Electric Ry. Co. has let contracts for ties. Over 250,000 lbs. of copper will be used in the construction of this line, and 3,300 tons of rails will be required. Company is now figuring for the delivery of rails. Contracts will probably be let this month for building line from Coeur d'Alene, Idaho, to this city. I. C. White, Coeur d'Alene, is Ch. Engr.

BAKER CITY, ORE.—The Baker City Rapid Transit Co. will soon start work on its own power house. Manager Balliet has matter in charge.

PORTLAND, ORE.—The Portland Ry. Co. will soon begin construction of new East Side branches. F. I. Fuller is Gen. Mgr.

PALO ALTO, CAL.—John F. Parkinson has petitioned council for an electric railroad franchise.

SANTA CRUZ, CAL.—Council has granted Fred. E. Swanton franchise for electric railway on Pacific Ave., from Lincoln St. to lower Plaza.

LOS ANGELES, CAL.—Bids are asked by H. J. Lelande, Cy. Clk., until May 11 and 25, respectively, for street railway franchises petitioned for.

VISALIA, CAL.—Supervisors of Tulara county have granted John Hays Hammond and Harold Wheeler a franchise for an electric line between Visalia and Lemon Grove; road will cost $350,000.

GARDNERVILLE, NEV.—The Gardnerville & Carson Electric R. R. will soon incorporate; to build from center of valley direct to Gardnerville.

LOOKOUT, IDAHO.—It is proposed to extend the upper terminus of the Summit tramway to this place, making four miles additional.

MONTREAL, QUE.—Local papers state that A. J. de B. Corriveau has returned from New York, where he succeeded in interesting capital in a project for an electric railway for the south shore. The lines to be built this year are those connecting this city, St. Johns, and also Valleyfield. They will be built under the charter of the Montreal & Southern Counties Ry., obtained in 1897.——Town of Westmount grants Montreal St. Ry. 35-year franchise for street railway.

LIGHT, HEAT AND POWER PLANTS.

(For foreign light, heat and power plants, see under "Foreign Contracts and Export News.")

MANCHESTER, N. H.—Legislature failed to pass bill for municipal lighting plant for this city.

BURLINGTON, VT.—Matter of municipal electric plant being considered by special committee, Alderman Courtney, Chn.

EVERETT, MASS.—Bids are asked until April 24 for lighting streets and public buildings with electricity. Charles Bruce, Mayor.

MANCHESTER, MASS.—Town has voted to authorize a local corporation to construct and maintain an electric lighting system. The plant is ultimately to be owned by the town. It is expected that work on the system will be begun soon.

WINSTEAD, CONN.—Reports from here state that New York parties are back of a project for developing electric power along the Farrington River in Otis and Sandisfield, Mass. It is said that over $500,000 will be spent. Options on the land has been secured by the Straw Co., Boston, Mass.

GREENE, N. Y.—Edgar B. Kay, of Cornell University, Ithaca, N. Y., has been engaged to make plans and superintend installation of combined electric light plant and water-works for this village, to cost about $40,000.

JAMESTOWN, N. Y.—Mayor Johnson in his annual message advises gradually enlarging the electric light plant for commercial lighting.

ROCHESTER, N. Y.—Bids are asked by the State Commissioner of Lunacy, Albany, N. Y., until May 6, for installing engines, generators, switchboard, electric light wiring and fixtures, telephone and watchman's clock systems for Rochester State Hospital. E. H. Howard, Supt.

NEWARK, N. J.—It is stated that the Essex & Hudson Gas Co., of this city, is to extend its mains this summer to Caldwell.

BELLE VERNON, PA.—The plans and property of the Belle Vernon Light & Heat Co. is stated to have been purchased by the Standard Oil Co. for $275,000.

POTTSVILLE, PA.—We are informed that the Schuylkill County Light & Heat Co., so far as present preparations go, is wholly a gas undertaking. The electrical end will be taken up later, but nothing has been decided as yet. F. B. Aldrich, Gen. Mgr.

PHILADELPHIA, PA.—Estimates for a new power house are stated to have been asked by the Woman's College, 22d and North College Ave. New boilers and equipment are to be installed.

ATLANTA, GA.—The council committee on electric lighting is stated to have accepted the bid of the Georgia Railway & Electric Co. for furnishing lights for a term of five years. The company offered an all-night service of 4,0-watt arc lamps and 16-c. p. incandescent lamps, at $75 per arc equivalent per year.

MILLEDGEVILLE, GA.—Mayor J. A. Horne is stated to have bought the controlling interest in the Water Power Co. It is reported that work is to be commenced early in May on the power dam. The power will be used here or transmitted to Macon.

VILLA RICA, GA.—The Villa Rica Light & Power Co., according to reports, proposes to add a general power plant to its works and to put in a water system.

MONROE, LA.—The city has purchased the plant of the Monroe Water-Works & Light Co. for $60,000.

MEMPHIS, TENN.—The Memphis Consolidated Gas & Electric Co. will spend $93,000 in extending its conduit system in this city. J. W. Clapp is treasurer of the company.

COLUMBUS, O.—Bids are asked until April 24 for the municipal electric lighting plant, plans for which are on file at office Jos. Dauben, Eberley Bldg. Fred. J. Immel, Dept. Pub. Impts.

MARION, O.—The contract for supplying city with light has been let to the Marion Electric Light & Power Co.

MILFORD, O.—A committee, of which N. A. Scott is a member, has been appointed for the immediate construction of electric plant and water-works.

WELLSVILLE, O.—City electric plant proposed.

BLUFFTON, IND.—The contract for a complete incandescent and street lighting plant for the city has been let to the Olds Construction Co., Fort Wayne, Ind., for $24,950.

ELKHART, IND.—A franchise for a heating system here has been granted to M. C. Wrightson, Cincinnati, O.; A. H. Mitchell has made the plans for the works.

FORT WAYNE, IND.—J. F. McIlfatrick is stated to have been retained as engineer for the proposed heating plant to be erected by a local company.

WABASH, IND.—Reports state that the city will call for bids for electric lighting for a term of five years. The award of the contract may mean the construction of a new plant.

BAY CITY, MICH.—It is stated that the Bay City Gas Co., John Hewitt, Pres., is attempting to purchase the electric light and water plants of West Bay City and Bay City.

GRAND RAPIDS, MICH.—The Edison Electric Lighting Co. will apply for a franchise for building a dam on the Flat River, in Vergennes township, as the first step toward securing additional electric power for this city and Lowell.

EVANSTON, ILL.—The plant of the Evanston Yaryan Co. is stated to have been sold for $219,295 to Lyman A. Walton, Vice-Pres. Equitable Trust Co., Chicago.

GALESBURG, ILL.—The Galesburg & Kewanee Electric Ry. Co. is stated to have bought a site in Kewanee for its power house and car barns, plans for which are already under way.

ELKHART LAKE, WIS.—It is stated that the Sheboygan & Elkhart Lake Railway & Electric Co. has decided to equip the Elkhart Lake sub-station with apparatus for lighting and power. The company is also said to have purchased the Elkhart electric light plant, to be used as a substation.

MILWAUKEE, WIS.—It is reported that the Milwaukee Gas Co. is to extend their mains for 2½ miles. E. G. Pratt is Mgr.

WEST ALLIS, WIS.—City may establish municipal plant as result of recent election at which Theodore Trecker was elected president.

ANITA, IA.—Town may have lighting plant.

FARRAGUT, IA.—Electric lighting discussed.

MUSCATINE, IA.—Electric plant proposed.

NEOLA, IA.—Town votes for electric light plant.

REINBECK, IA.—The council is stated to have let a contract to W. P. Walsh for putting in an electric light plant.

SLAYTON, MINN.—B. I. Weld has been granted franchise for a gas plant.

GREAT FALLS, MONT.—J. D. Ryan and associates have asked for an electric light plant franchise.

LIVINGSTON, MONT.—C. S. Hefferlin, of the Livingston Water Power Co., has purchased the electric light plant built by A. O. Newton and will consolidate it with the present plant.

AUSTIN, TEX.—Efforts are being made for the rebuilding of the power house and dam across the Colorado River. The cost of the work has been estimated at $500,000. John D. McCall was a member of the committee having the matter in charge.

CLEBURNE, TEX.—A 50-year franchise has been granted to the Cleburne Light, Power & Heating Co. for putting in a gas plant for heating and lighting purposes.

SNYDER, OKLA.—Reports state that W. R. Affeld, Duncan, Ind. Ter., will put in an electric light and power plant; also a 30-ton ice and cold-storage plant.

LITTLETON, COLO.—A franchise for an electric light plant has been granted to the Arapahoe Electric Light & Power Co. This company was recently incorporated with $50,000 capital by Nelson Rhodes, Jr., and others.

TACOMA, WASH.—The Pierce County Improvement Co. have let a contract to the Risdon Iron Works, San Francisco, Cal., for 4,000,000 lbs. of steel pipe required for the water power plant to be erected this summer on White River.

CORVALLIS, ORE.—J. H. Wilson has filed a notice appropriating water from Marys River for the development of a power plant. About 100 HP. will be available.

PORTLAND, ORE.—Bids are asked until June 18 for lighting streets, avenues, parks, and other public places by 2,000-c. p. electric arc lights and for lighting public buildings by incandescent electric or gas lights, for a term of five years. Thos. C. Devlin, Cy. Auditor.

TILLAMOOK, ORE.—C. E. Hadley has been granted a franchise for installing electric light system. It is proposed to get power from the north fork of the Wilson River and the plant will be put in this summer at a cost of $10,000.

BERKELEY, CAL.—Bay Counties Power Co. has secured franchise for maintaining poles and wires in this city.

COLTON, CAL.—Geo. B. Ellis, Redlands, Cal., has asked for franchise and proposes to build gas plant if it is granted.

GROVELAND, CAL.—It is stated that the Tuolumne Electric Co. is prepared to spend $250,000 in erecting an electric plant for furnishing power to the mines near Groveland.

LA JUNTA, CAL.—Town has voted adversely to construction of gas works.

LOS ANGELES, CAL.—Bids are asked until May 16 for an electric plant at Fort Rosecrans, Cal. Capt. Edgar Jadwin, U. S. Engrs.

REDDING, CAL.—Northern California Power Co. has asked permission to erect gas plant and lay mains.

SANTA BARBARA, CAL.—Reuben Hart has asked for a franchise for an electric light and power system in Santa Barbara county. C. A. Hunty is County Clk.

VALLEJO, CAL.—The electric light and power plant at the navy yard is to be enlarged, an appropriation of $80,000 being available for the work.

OGDEN, UTAH.—Charles Pulver, C. E., has been making surveys for power plant and pipe line on Chalk Creek, Fumore.

VERNAL, UTAH.—We are informed that contracts will be let about July 1 for plant of Vernal Light & Power Co., in Ashley Canyon, the estimated cost of which is $35,000. The work is to be completed this summer. E. W. Davis may be addressed.

CUL DE SAC, IDAHO.—Z. A. Johnson, Nez Perce, is said to contemplate extending his electric power system to this place and also to Lewiston. A station may be erected at Lolo Creek to develop the necessary power for these extensions.

DIGLEY, N. S.—City may put in gas and electric plant.

ALMONTE, ONT.—The improvement of the electric light plant at cost of $5,000 is proposed.

EDMONTON, ONT.—City votes to raise $25,000 for completing new municipal light plant.

HAVELOCK, ONT.—Private parties will erect power house on Crowe River for furnishing village with electricity.

WINDSOR MILLS, ONT.—Town will erect electric plant and will built two dams on the Wattopekah with this end in view.

BONDS.—Harrodsburg, Ky., is to issue $18,000 electric plant construction bonds. C. D. Thompson is a commission on bond disposal.——Ford, Mich., will vote April 28 on $21,000 issue of light and water plant bonds; P. O. Detroit.——South Stillwater, Minn., is asking for bids until May 5 for $23,000 light and water bonds.

NEW COMPANIES.—Empire Coke Co., Geneva, N. Y.; $1,000,000; Edward H. Palmer, Austin Lathrop, Corning, N. Y.; C. J. Langdon, Elmira, N. Y. See item elsewhere in this column.——Mt. Holly Springs Light, Heat & Power Co., Mt. Holly, Pa.; $5,000; P. F. Pendergast, Harrisburg, Pa.; A. H. Mullin, Mt. Holly; C. Faller, Carlisle, Pa.——Electric Machinery & Power Co., Spartansburg, S. C.; $100,000; to develop water power on Broad River; W. E. Burnett, Pres.——Washoe Power & Development Co., Reno, Nev.; $300,000; N. J. Evans, H. C. Cutting.——Intermountain Electric Co., Salt Lake City, Utah; $50,000; Samuel F. Fenton, E. A. Tripp, G. C. Fenton.——Cairo Electric & Traction Co., Cairo, Mo.; $150,000.——Enid Electric & Gas Co., Enid, Okla.; $200,000; James S. Cummings, Chicago, Ill.; Harry M. Newton, John T. Curran, Guy S. Mansfield; Fort Smith Light & Traction Co., Fort Smith, Ark.; $300,000; W. C. Lambert, Geo. T. Sparks, Robt. G. Hunt; to operate electric railway and a toll bridge over the Arkansas River near Van Buren.——Palmer Gas Light Co., Palmer, Pa.; H. E. Mitchell, T. W. Cramp, C. L. Serrill.——Buhl-Kimberly Co., Bridgeport, Conn.; $5,000,000; Ashley T. Cole, Richard F. McKinery, W. J. Bagnell, New York; to construct gas and electric light plants and railways.——Sunshine Lighting Co., Denver, Colo.; $50,000; R. H. Sessions, B. Frank Hand, W. F. Hand.——Consumers Electric Co., New Orleans, La.; $500,000; Jules S. Dreyfous, J. M. Fournier, Emile Godchaux.——Inland Light & Power Co., Rossland, B. C.; $15,000; K. L. Burnet, Judge Boulthee, J. S. Clute.——Arapahoe Electric Light & Power Co., Denver, Colo.; $50,000; Nelson Rhodes, Jr., Arthur G. Reynolds, W. C. Sterne.——Faribault Gas & Electric Co., Faribault, Minn.; $250,000; B. W. Cowperthwaite, John Haug, E. F. Preston.——Fuel Gas Companies, Columbus, O. Companies have been incorporated by C. H. Struble, R. Fitzgerald, H. D. Pritchard and others for engaging in the manufacture of fuel gas in Youngstown, Girard, Struthers and Niles.

BRIDGES

(For foreign bridge work, see under "Foreign Contracts and Export News.")

SKOWHEGAN, ME.—Town has voted to build a steel bridge over the Kennebec River at an estimated cost of about $12,000.

WATERVILLE, ME.—The city is to build a steel bridge jointly with the Waterville & Oakland Electric Road Co. The cost to the city is not to exceed $1,250.

BOSTON, MASS.—The contract for constructing bridges over the Worcester, Nashau & Portland and Central Massachusetts Railroads at Oakdale, and for other work in relocating highways, etc., for the Metropolitan Water and Sewerage Board, has been let to Geo. M. Atkins Co., Palmer, Mass., for $37,335.

PALMER, MASS.—The sum of $6,000 has been appropriated for a stone arch bridge in Thorndike, and $5,000 has likewise been provided for a two span iron or steel bridge at Burleighs. C. H. Hobbs is on the bridge construction committee.

PITTSFIELD, MASS.—The city budget includes items of $10,000 for a bridge at East Housatonic St., and $15,000 for an iron bridge on Dalton Ave.

WOONSOCKET, R. I.—Appropriation of $32,000 is to be provided for rebuilding, widening and straightening South Main St. bridge.

BUFFALO, N. Y.—It is stated that the grade crossing commission has reconsidered its award of the contract for the substructure of the Perry St. viaduct to Miller & Franklin, the second lowest bidders, and has decided to let the work to F. J. Reap, the lowest bidder, at $63,537.

CORNING, N. Y.—Bids are asked until May 4 for constructing new spans, 149 ft. each, for bridge over Chemung River; also for repairing three piers and abutment

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

of the Gibson highway bridge and for constructing cement sidewalk on same bridge, as is stated in our advertising columns. C. F. Parks, Comr.

NEW YORK, N. Y.—Bids are asked by the park department, Fifth Ave. and 64th St., until 3 p. m., April 23, for constructing concrete steel arch bridge, with stone parapet walls and stone arch facings, over the Bronx River. Wm. R. Willcox, Comr.

SCHENECTADY, N. Y.—James O. Carr, of the Schenectady Ry. Co., has applied to the supervisors for permission to build a pier bridge over the Mohawk River, ½ mile west of the State dam. The bridge would cost about $200,000.

BURLINGTON, N. J.—Legislative bill pending for bridge between Burlington and Bristol, Pa.

PHILLIPSBURG, N. J.—We are informed that a bill has just been passed by the New Jersey legislature granting the Northampton Bridge Co. the right to construct a bridge between Martin's Creek, Pa., and Carpentersville, N. J.

BEDFORD, PA.—It is stated that the county will rebuild the wagon bridge over the Narrows, which was burned last year.

GETTYSBURG, PA.—Bids are asked until June 1 for steel bridge on Reynolds Ave. over Western Maryland R. R., upon Gettysburg battlefield. John P. Nicholson, Chn. Gettysburg Comn.

HARRISBURG, PA.—Bids are asked until May 5 for rebuilding substructure and superstructure of bridge over Schuylkill River, near Auburn. James M. Shumaker, Supt. Pub. Grounds & Bldgs.

PHILADELPHIA, PA.—Plans are said to have been completed and bids will probably be asked at once for a bridge over the Schuylkill at Market St., which the Philadelphia Rapid Transit Co. proposes to build to connect its elevated structure with the subway. W. S. Twining, 8th and Dauphin Sts., is Ch. Engr.

BALTIMORE, MD.—City Engineer Fendall is to replace the wooden bridge over Gwynns Run with a concrete structure, to cost about $1,200.

HAGERSTOWN, MD.—Plans have been made and bids are to be asked soon for building an extension to the bridge at this place. The bridge is to be of steel, 100 ft. long, and will cost $40,000. The matter is in charge of the county commissioners.

WASHINGTON, D. C.—The contract for rebuilding pier 5 of the Aqueduct Bridge has been let to the Penn Bridge Co., Beaver Falls, Pa., for $54,936. Work is to commence May 1.

RICHMOND, VA.—The Chamber of Commerce is moving for a new bridge to replace the present toll bridge at 14th St.

MARTINSBURG, W. VA.—Bids are to be asked by the Berkeley county commissioners for building 50 × 110-ft. extension to a county bridge.

WHEELING, W. VA.—The City Railway Co. will build a separate bridge across Wheeling Creek. Plans have been prepared by the Osborn Engineering Co., Cleveland, O.

DUNN, N. C.—The county commissioners are to build a $12,000 bridge across Cape Fear, near Averosboro. E. F. Young is Chn. Comrs.

ATLANTA, GA.—Council has been petitioned for a viaduct to connect Washington and Courtland Sts. R. M. Clayton is Cy. Engr.

BIRMINGHAM, ALA.—The Birmingham Railway, Light & Power Co., so it is said, intends to build a viaduct over the railroad tracks at Bessemer for the new electric line which is to connect that city with Birmingham.

BREWTON, ALA.—The Escambia county commissioners have rejected all bids for a steel bridge over Conecuk River at McGowin's Ferry. The lowest bid received was $6,300 for a steel span. The matter has been left in the hands of Commissioner McGowin.

VICKSBURG, MISS.—Bids are asked until May 4 for building a bridge on road 81, near Hundermarks Store. J. D. Laughlin, Chancery Clk.

CLARKSVILLE, TENN.—Reports state that the county court has appropriated $4,500 for building a bridge over the Red River at Port Royal.

WARTSBURG, TENN.—Morgan county is said to be preparing to build a bridge over the Emory River at Oakdale, four miles north of Harriman.

WAVERLY, TENN.—A tax has been levied for building a $15,000 county bridge over Duck River at Forsee's Ferry.

COLUMBIA, KY.—The county court has voted to build an iron bridge over Russell's Creek, one mile from the city.

AKRON, O.—We are informed that a flaw in the state law compelling railroads to co-operate with cities in abolishing grade crossings may be such as to postpone indefinitely the building of the Mill St. viaduct. The bridge will not be built this year. J. W. Payne, Cy. Civil Engr.

IRONTON, O.—It is said that a bridge over the Ohio River, between this city and Ashland, Ky., is to be commenced in 90 days. It is likely that the bridge will be a combination structure for traction lines and wagon and foot travel. The cost will be several millions. The enterprise has been promoted by A. C. Campbell, Ashland, Ky., and the companies interested are the Ashland & Ironton Bridge Co., and the Ironton & Kentucky Bridge Co.

NILES, O.—The Osborn Engineering Co., Cleveland, O., is making plans and specifications for a bridge to be erected over Mosquito Creek by the Trumbull county commissioners.

CRAWFORDSVILLE, IND.—Contracts for bridge work have been let as follows: Six steel bridges, superstructures, Brackett Bridge Co., Cincinnati, O.; two steel bridges, superstructures, Anderson Bridge Co.; Concrete arch bridge, Canine & Bettis, Crawfordsville, Ind., $510; four bridge substructures, Geo. B. Lynch, Darlington, Ind., $2,-500; three bridge substructures, J. P. Van Fossan, Waveland, Ind., $2,365.

NEWPORT, IND.—Vermillion county is said to have offered $35,000 towards the proposed bridge over the Wabash at Cayuga.

SALEM, IND.—Bids are asked until May 4 for constructing steel bridge over Lost River, in Vernon township. Frank E. Morris, A. W. C.

TERRE HAUTE, IND.—Plans and specifications are stated to be under way for the proposed new bridge over the Wabash River. According to the plans the bridge is to be 812 ft. long, of seven spans, one of which is a draw span. It will cost about $175,000. Prof. M. A. Howe, of Rose Polytechnic Institute, is one of the engineers.

BAY CITY, MICH.—Contract for new steel bridges here have been let to W. J. Meager for a total of $2,500.

COOPER, MICH.—For building a new bridge $6,000 has been voted.

GRAND RAPIDS, MICH.—Bids are asked until May 15 for constructing a concrete or concrete-steel arch bridge, 448 ft. long, over Grand River at Bridge St., as stated in our advertising columns. L. W. Anderson, Cy. Engr.; Jos. Emmer, Pres. Bd. Pub. Wks.

JACKSON, MICH.—The following bids were received for building a steel and concrete bridge over Grand River at East Main St: Van Leuven, $14,852; Charles A. Howind, $11,889; E. J. Tobin & Co., $10,986. The above bids were under city engineer's plans. E. J. Tobin & Co. also bid $13,933 under plans of his own and R. Dunn, Detroit, Mich., likewise submitted a plan and a bid thereon of $13,847.

PLAINWELL, MICH.—Contract for a combination steel and concrete bridge on North Main St. has been let to the Slater Construction Co., Pontiac, Mich., for $19,000.

CHICAGO, ILL.—Plans are to be prepared and bids called within a month for two new bascule bridges, to be erected by the drainage board at Dearborn St. and 22d St., at an estimated cost of $200,000 each.

DECATUR, ILL.—J. M. Dodd, County Clk., writes us that the contract for a bridge over the Sangamon at Coulter's Mill was let to the Decatur Bridge Co. Reports state that the bridge was to cost about $6,000.

PETERSBURG, ILL.—The contract for a bridge over Indian Creek, near Indian Point, has been let to the Decatur Bridge Co. for $2,900.

MILWAUKEE, WIS.—The city engineer has been instructed to make plans and specifications for the Washington Ave. viaduct across the Menomonee Valley.

CHARLES CITY, IA.—Contract for a 115-ft. span bridge over Sheel Rock, at Nora Springs, has been let to E. L. Chambers, New Hampton, Ia., for $1,500.

OTTUMWA, IA.—County supervisors have been petitioned for bridge over Des Moines River at Cliffland.

SIOUX CITY, IA.—It is stated that bridge improvements will be made to the extent of $33,500. I. N. Stone is Chn. St. Com.

TOPEKA, KAN.—Reports state that the county commissioners are to build a 92-ft. long steel bridge over Mission Creek.

LINCOLN, NEB.—Bids are asked until April 27 for erecting a one span, 100 ft. long and 16 ft. wide steel bridge over Little Blue River, near Steele City.

GREAT FALLS, MONT.—It is reported that the Great Northern R. R. will build a steel bridge three miles above Great Falls.

LITTLE ROCK, ARK.—The Fort Smith Light & Traction Co., recently incorporated with $300,000, proposes, among other things, to operate a toll bridge over the Arkansas River, near Van Buren. W. C. Lemert is Pres.

PAWNEE, OKLA.—Bids are asked until May 8 for construction and material, save steel and iron, for a bridge over the Arkansas River, near Cleveland. C. R. Adams, County Clk.

RIPLEY, OKLA.—Steel bridge may be erected over Cimarron River, in this town.

PUEBLO, COLO.—City has voted to issue $120,000 bonds for building viaduct at South Main St. and East Fourth Street.

MONTESANO, WASH.—Bids are asked until May 4 for constructing 50-ft long highway bridge over Cedar Creek; also for constructing combination span highway bridge over Humptulips River. Bridge is to have a total length of about 200 ft. W. D. Campbell, County Audr.

PALOUSE, WASH.—It is stated that the county commissioners are to construct a steel bridge over the Palouse River.

TACOMA, WASH.—We are informed that plans are being made for the proposed Puyallup River bridge and that bids will be received about May 15. Bidder may submit own plans if he so wishes. The bridge is to be 263½ ft. long, 20 ft. wide and is to have a capacity of 70 lbs. per sq. ft. The bridge is to have a draw and the foundations are to be piles. The cost will be about $14,500.

OROVILLE, CAL.—Supervisors have been petitioned to construct bridge over West Branch.

RED BLUFF, CAL.—Supervisors are considering construction of bridge over Sacramento River at Iron Canyon.

SANTA BARBARA, CAL.—City votes May 6 on a bond issue of $20,000 for bridges.

SAN BERNARDINO, CAL.—The contract for two county bridges has been let to the Clinton Iron & Bridge Works, Clinton, Ia., for a total of $12,723.

BUILDINGS.

CALAIS, ME.—A site for the public building is being discussed.

NASHUA, N. H.—Bids are asked by the State Hospital trustees until April 28 for erecting wings to the Rumford and Chandler buildings. Dr. C. P. Bancroft, Concord. W. M. Butterfield, Arch., Manchester.

BOSTON, MASS.—Bids are asked by park commissioners until May 27 for erecting three stone sanitary buildings and brick storehouse. A. W. Longfellow, Arch., 1124 Tremont Bldg.; C. E. Stratton, Comr.

WINSTED, CONN.—The Highlandale Land Co. will build a 4-story hotel, 134 ft. long, with 80 ft. wing.

BUFFALO, N. Y.—Loomis & Benjamin will erect a 5-story warehouse at Georgia St. and Front Ave., at cost of $85,000.——A new church will be built by the Holy Mother of the Rosary, at cost of $125,000. Medina sandstone will be used. S. H. Woodruff, Arch., 500 Main St.

BROOKLYN, N. Y.—Preliminary plans will be prepared by Consulting Architect Hornbostel for the proposed bridge terminal and municipal office building.

BROOKLYN, N. Y.—Bids are asked by board education until May 4 for erecting iron gates and railings, repairing and installing electric wiring in various schools. C. B. Snyder, Supt. of Schools.

BROOKLYN, N. Y.—Bids are asked by fire department, 157 East 67th St., New York, until April 29 for erecting engine house for Co. No. 146, at 23d St., Sheepshead Bay, and for Co. No. 145 at West Eighth St., Coney Island. Thos. Sturgis, Comr.

FLUSHING, N. Y.—An appropriation of $50,000 is asked for new armory for the Seventeenth Separate Co.

LOCKPORT, N. Y.—Bids are asked by James Knox Taylor, Supervis. Arch., Treas. Dept., Washington, D. C., until May 25 for installing conduit and electric wiring in the post office.

NEW YORK, N. Y.—A 9-story brick office building will be erected at 3 East 17th St. by the Galbay Construction Co., at a cost of $120,000. F. C. Zobel, Arch., 41 West 24th St.——Steele & Stone, Archs., Philadelphia, Pa., are preparing plans for a theatre, to be erected on the Parker House site, for F. Isman, Philadelphia, Pa.——9. Barkin will build a 6-story tenement at Ave. B and Third St., at cost of $40,000.——L. A. Leibeskind will erect a 7-story apartment house, 55 × 100 ft., at 99th St. and Central Park West.——Andrew Carnegie has donated $250,000 for building an extension to the Mechanics' & Tradesmen's Institute. C. W. Hoffman is Pres.

NEW YORK, N. Y.—Bids are asked by health department, 55th St. and Sixth Ave., until May 5, for erecting the scarlet fever pavilion at Willard Parker Hospital, East 16th St. E. J. Lederle, Ph. D., Pres.——Bids are asked by the police department, 300 Mulberry St., for repairing police stations. F. V. Greene, Comr.

NEW YORK, N. Y.—Plans have been filed by A. E. Badt, Arch., 1 Union Square, for a 3-story brick synagogue, 54 × 82 ft., at 13-15 Pike St., for L. Gordon, 230 Grand St., costing $75,000; by C. C. & M. P. Thain, Archs., 4 East 42d St., for three 5½-story brick dwellings, 55 × 74 ft., at 40 to 44 East 51st St., for J. Farley Construction Co., 5 East 42d St., costing $135,000; by A. E. Badt, Arch., 1 Union Square, for a 4-story brick flat, 38 × 75 ft., at Ave. D and Fifth St., for M. Jacobs, 218 East Sixth St., costing $70,000; by Howell & Stokes, Archs., 100 William St., for 10-story brick flat, 49 × 98 ft., at 35-37 Madison Ave., for Wylly Co., 100 William St., costing $320,000; by W. G. Pigueron, Arch., 5 East 42d St., for 9-story brick lofts, 40 × 75 ft., at 34-36 West Houston St., costing $100,000; by F. C. Zabel, Arch., 22 East 23d St., for a 9-story brick office building, 28 × 86 ft., for the Gabay Construction Co., 114 East 23d St., costing $120,-000; by Bernstein & Bernstein, Archs., 111 Broadway, for a 6-story brick tenement, 46 × 74 ft., for J. Weinstein, 190 Bowery, costing $50,000; by Bernstein & Bernstein, Archs., 111 Broadway, for a 6-story brick flat, 56 × 87 ft., at 188-192 Chrystie St., for Friedman & Feinberg, 329 East 116th St., costing $50,500; by A. E. Badt, Arch., 1 Union Square, for 6-story brick tenement, 24 × 80 ft., at Ave. B and Third St., for 9. Barken, 123 Bowery, costing $40,000.

NEW YORK, N. Y.—A 4-story brick station house, 53 × 86 ft., and stable, 23 × 55 ft., will be erected on East 30th St., costing $125,000. D. S. Short, Arch.——Wm. Steele & Sons, 16th and Arch Sts., Philadelphia, Pa., received contract for T. Isman's 2-story fireproof theatre at 39th St. and Broadway, for $300,000.——A 10-story apartment house, 33 × 125 ft., will be erected by A. P. Colburn at 65th St. and Central Park West.

ROME, N. Y.—Fire has destroyed the Washington theatre, owned by Wallace & Gilmore, Oswego. Loss estimated at $125,000.

NEWARK, N. J.—An appropriation of $125,000 will be made for new armory.

TRENTON, N. J.—The State Normal School will be improved at cost of $125,000.

BELLEFONTE, PA.—The house of representatives has increased the limit of cost of the new state capitol to $4,500,000.

HAZLETON, PA.—Plans are being prepared by O. McGlynn, Wilbesbarre, for a new 3-story brick and stone school, costing $60,000. Steam heat required.

GERMANTOWN, PA.—J. W. De Long will erect a 6-story stone and brick apartment house, 92 × 90 ft., at Chelton Ave. and Morris St., costing $100,000. Steam heat and telephone system to be installed.

PHILADELPHIA, PA.—Henderson & Co. received contract for erecting 6-story brick and steel apartment house at 1224 Locust St., for the Wetherill Apartment House Co. for $50,000.

PHILADELPHIA, PA.—The Winston Publishing Co. will erect an 8-story building, 100 × 87 ft. and 74 × 53 ft., on Arch St., at cost of $150,000. W. C. Prichett, Arch., 420 Walnut St.——G. B. Wilson will erect a 3-story brick, stone and terra cotta building, 53 × 230 ft., at 1016-18 Chestnut St., at cost of $45,000. Low-pressure steam-heating apparatus to be installed.——Melody & Keating, 2118 Diamond St., received contract for St. Edward's R. C. Church, for $250,000.——H. Miller, Arch., 1420 Chestnut St., has invited sub-bids for a 7-story brick and steel fireproof addition, 116 × 40 ft., to the Chirurgical Hospital, 18th and Cherry Sts. Cost, $140,000.——C. E. Oelschlager, Arch., Harrison Bldg., is preparing plans for Weimer, Wright & Botkin's 7-story building at 1210-12 Arch St., costing $60,000. Elevators and steam heat to be installed.

PITTSBURG, PA.—Prof. J. A. Brashear, of Western University of Pennsylvania, has stated that a new university will be erected in this city.

READING, PA.—Bids are being received for St. Paul's Reformed Church, stone, one story and costing $45,000. A. A. Richter, Arch., Lebanon, Pa.

WILLIAMSPORT, PA.—The annex to the court house will be of terra cotta and steel, fireproof, two stories and 46 × 103 ft. T. P. Reitmeyer, Arch., 360 Market St.

YORK, PA.—The Guardian Trust Co. will build fireproof bank and office building. Address J. M. McConkey.——J. A. Dempnolf will prepare plans for reconstructing jail. Brick, stone and steel, fireproof and costing $175,000.

WILMINGTON, DEL.—Plans have been completed for the Pennsylvania Ry. Co.'s 2-story passenger station, 85 × 107 ft. Pompeiian brick and Indiana limestone will be used. Cost, $100,000.

BALTIMORE, MD.—The Ingram warehouse at Hanover and Lombard Sts. will be nine stories, 76 × 160 ft., and cost between $150,000 and $200,000. Four elevators will be installed.——John Waters has received contract for the United Electric Light & Power Co.'s brick and steel fireproof station for $100,000.

CAMBRIDGE, MD.—J. B. Brown received contract for erecting United Charities Hospital for $40,000.

WASHINGTON, D. C.—D. C. Phillips, 1600 West 21st St., will erect a 7-story brick, stone and steel fireproof apartment house, 100 × 120 ft. Heating and electric plants will be installed.——S. J. Prescott & Co., 507 12th St., received the contract for erecting the 1-story Foundry M. E. Church, 110 × 130 ft., for $125,000.

HARRISONBURG, VA.—The First National Bank will erect a $75,000 building on the corner of Main and Court Square.

LYNCHBURG, VA.—Ellis, Agnor & Bro. received contract for erecting Barker, Jennings & Co.'s 6-story brick warehouse, 100 × 300 ft., for $150,000.

NORFOLK, VA.—Bids will soon be asked for erecting the 50 × 90 ft. Carnegie Library at Freemason and Thomas Sts. Andrew Carnegie donated $50,000 for the purpose.

PETERSBURG, VA.—The proposed granite addition to the post office building will front on Union St. An appropriation of $80,000 will be asked.

STAUNTON, VA.—The King Lumber Co. received contract for erecting the National Valley Bank building, for $50,000.

WHEELING, W. VA.—The Baltimore & Ohio Ry. Co. has approved plans for a $1,000,000 terminal passenger station.

ELIZABETHTOWN, N. C.—Bids are asked until May 19 for building a new jail. C. P. Parker, Chn. Bd. Comrs.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

GREENSBORO, N. C.—The plans for the $65,000 government building have been approved.

GREENSBORO, N. C.—A site has been purchased for the $100,000 hospital for the Sisters of Charity.

WILMINGTON, N. C.—Bids are being received by G. O. Gaylord for a 3-story brick building, 35 × 120 ft. H. E. Bonitz, Arch., 15 Princess St.

ATLANTA, GA.—The contract for erecting the 16-story brick and steel fireproof building for the Fourth National Bank will soon be let. Steam heat and electric plants to be installed. Bruce & Morgan, Archs., Prudential Bldg.

CRAWFORDVILLE, GA.—A $40,000 court house may be built.

SAVANNAH, GA.—The new 8-story hotel will be built by the Apartment Hotel Co. on the site bounded by Bull, Macon, Charlton and Drayton Sts. J. D. Carswell is interested.

WASHINGTON, GA.—Bids are asked by commissioners of roads and revenues until May 12 for erecting new court house. Estimated cost, $40,000. F. P. Milburn, Arch., Columbia, S. C. R. D. Callaway is Chn.

BIRMINGHAM, ALA.—Plans have been approved for the new court house. Pressed brick, stone and steel and 72 × 64 ft.——A $500,000 apartment house will be erected.

SELMA, ALA.—A $75,000 government building contemplated.

FRANKLINTON, LA.—The Touro Infirmary has decided to erect a modern infirmary building to cost $100,000.

CHATTANOOGA, TENN.—The Stone Fort Land Co. contemplates erecting an office building on Market St. Q. C. Patten is Pres.

HUNTSVILLE, TENN.—Plans and specifications are being received for new court house. B. Cecil, County Judge, Com. Member.

JOHNSON CITY, TENN.—Bids are asked until May 14 for constructing library building for the National Home for Disabled Volunteer Soldiers, 346 Broadway, New York. M. T. McMahon, Pres. Bd. Mgrs.

DANVILLE, KY.—Work will soon start on the Masonic Temple. H. Sanifer is Pres.

LOUISVILLE, KY.—Plans are being prepared for the 5-story Business Woman's Club, 75 × 185 ft., at 431 West Walnut st., costing $50,000.

COLUMBUS, O.—An apartment house costing $200,000 will probably be erected on East Broad St. W. T. Mills, Arch., will draw plans.

CLEVELAND, O.—Bids are asked by board of education, Rose Bldg., until May 11 for completing the Doan St. school. Starr Cadwallader, Dir.——Bids are asked by public library board until May 7 for completing public library building at Willson Ave. and Marquette St. W. R. Watterson, Arch., 1203 New England Bldg. H. Dixon is Secy.——Bids will soon be asked for constructing the new federal building. A. W. Brunner, Arch.

CLEVELAND, O.—A 12-story steel fireproof office building, 78 × 273 ft., will be erected on Superior St. S. W. Parsons is interested.——The sum of $100,000 will be spent on improving the Weddell House.

DAYTON, O.—F. Packard, Arch., Columbus, is preparing plans for G. and A. Dickson's theatre on South Main St. H. C. Feicht, Gen. Mgr.

STEUBENVILLE, O.—C. Dickel is preparing plans for Hartje Bros.' 6-story warehouse.

GOSHEN, IND.—The court house will be improved at cost of $40,000.

GREENCASTLE, IND.—Contracts will soon be let for the new $150,000 court house.

INDIANAPOLIS, IND.—The Merchants' National Bank will erect a 14-story office building, 67 × 115 ft., on Pennsylvania and Washington Sts. J. P. Fresel is Pres.

MUNCIE, IND.—The Delaware County Hospital Association will erect a county hospital. Lewis Clark is a Dir.

PETERSBURG, IND.—A new court house is being discussed.

OWOSSO, MICH.—The cost of the new court house will not exceed $75,000.

CHICAGO, ILL.—Marshall Field & Co. will erect a 10-story warehouse at Polk St. and Stewart Ave., at cost of $500,000.——J. C. Billingslea will erect an 8-story building at Sherman and Polk Sts., at cost of $100,000.——H. M. Hooker will erect a 7-story building at Adams and Jefferson Sts., at cost of $100,000.

QUINCY, ILL.—Bids are asked by board of education until April 30 for constructing the Webster school building. J. W. Gardner, Member of Bd. H. Chatten, Arch., Wells Bldg.

ROCKFORD, ILL.—E. M. Noll, Baltimore, Md., received the contract for erecting a 10-story brick and steel fireproof office building, for $400,000. Steam and electric plants installed.

CEDAR FALLS, IA.—Plans for the new $75,000 court house are completed.

MARSHALLTOWN, IA.—L. B. Jones, Mayor, has recommended a new city hall.

ST. PAUL, MINN.—The appropriation of $1,500,000 for the completion of the state house awaits the governor's signature.

FORT SCOTT, KAN.—A 4-story brick temple, costing $50,000, for the Woodmen of the World Lodge, is contemplated.

IOLA, KAN.—The new court house will be 74 × 96 ft., and of brick and limestone.

TOPEKA, KAN.—A 2-story Masonic Temple will be built at cost of $50,000.

LANGDON, N. D.—Bids are asked until April 29 for erecting a brick church for St. Alphonsus parish. E. J. Donohue, Arch., Gilfillan Block, St. Paul, Minn. Address Rev. M. Dougherty, Box 56.

DILLON, MONT.—Bids are asked until April 29 for constructing addition to the State Normal College. C. S. Haire, Arch., Helena; A. L. Stone, Secy.

KANSAS CITY, MO.—Plans have been prepared for the addition to the federal building.

ST. LOUIS, MO.—A 12-story office building will probably be erected at Seventh and Market Sts., at cost of $500,000. J. P. Herman is interested.——Caldwell & Drake, Hammond, Ind., received the contract for erecting the Agricultural Building for $529,940.——Nelson Chesman & Co. will erect an office building on Pine St., at cost of $230,000.—Paul Brown will erect a stone building at 311 South Broadway, at cost of $125,000.——M. M. Ebbs will erect a row of flats at 4246 Cleveland Ave., costing $45,000.

ST. LOUIS, MO.—The Nelson Chesman building, to be erected at 1127-29 Pine St., will be 12 stories and cost about $230,000.——Streklow & Phelps received contract for state building for $105,480.

SPRINGFIELD, MO.—P. Buchanan received contract for erecting Holland building for $50,000.

LITTLE ROCK, ARK.—An appropriation of $1,000,000 has been made for completing the state capitol building. G. R. Mann, Arch., 112 Louisiana St.

AUSTIN, TEX.—The main building of St. Edward's College has been destroyed by fire, with loss of $150,000.

BEAUMONT, TEX.—Bids are asked by James Knox Taylor, Supervis. Arch., Treas. Dept., Washington, D. C., until May 12 for constructing post office and court house, including electric wiring, plumbing, etc.

BEAUMONT, TEX.—The Kansas City Southern Ry. Co. contemplates erecting passenger station and freight depot.——Plans will be prepared for a $50,000 city hall building.——The Texas & New Orleans Ry. Co. will erect an $80,000 passenger station.

EL PASO, TEX.—Plans will soon be completed for Dr. Weeks' 6-story building.

McKINNEY, TEX.—The main building of the Texas Presbyterian University will cost $75,000.

SAN ANTONIO, TEX.—A modern hotel will be built. S. Small is interested.

NORTH YAKIMA, TEX.—Robt. Scott has received the contract for erecting the Yakima National Bank building for $50,000.

DENVER, COLO.—A 10-story office building, costing $1,000,000, is contemplated being built on 17th St. F. E. Edbrooke, Arch., 510 Opera House Bldg.

SEATTLE, WASH.—Woock & Behrons received contract for Harm & Schmitz Land Co.'s 6-story brick building for $62,000.——Contract will soon be let for Buttonworth & Sons' 5-story brick building.

SPOKANE, WASH.—Reports state that the trades council has recommended the erection of a labor temple.——Andrew Carnegie has donated $75,000 for a public library.——It is stated that a brick building will be built at cost of $50,000. A. D. Jones is interested.

WALLA WALLA, WASH.—H. Osterman, Arch., will prepare plans for a new high school building, costing $50,000, including site.

BAKER CITY, ORE.—Reports state that work will soon commence on the $60,000 building for the Sisters.

PORTLAND, ORE.—R. Martin, Jr., Arch., has prepared plans for Olds, Wortman & King's new 5-story steel frame building, 50 × 100 ft.

FRESNO, CAL.—Bids are asked until May 4 for erecting fire engine building on Block 2, Fishers Addition. J. B. Johnson, Cy. Clk.

LOS ANGELES, CAL.—A new building is being discussed by the Elks.

LOS ANGELES, CAL.—Theo. Wiesendanger will erect a 5-story brick building at cost of $80,000.

OAKLAND, CAL.—A. W. Burrell received the contract for new buildings at Fort Wright, Wash., for $54,506.

REDWOOD CITY, CAL.—Plans have been accepted by the board of supervisors for the new court house. Brick, stone and terra cotta will be used. Cost, $125,000. Dodge & Dolliver, Archs., 206 Sansome St.

SAN FRANCISCO, CAL.—Scott & Van Arsdale will erect an 8-story fireproof steel and brick building at Mission and Jessie Sts., at cost of $215,000. Passenger and freight elevators, steam and electric plants and stand-pipe will be installed.——The supervisors have passed ordinances providing for the construction of various school buildings.

SAN FRANCISCO, CAL.—The Crocker Estate will build addition to the St. Francis Hotel, Geary and Powell Sts., at cost of $500,000.

BERKELEY, CAL.—Reports state that the members of Trinity Methodist Episcopal Church, San Francisco, will erect a $50,000 edifice at this place.

BOISE, IDAHO.—Local papers state that a large department store will be built. M. Alexander is interested.——Plans have been accepted for the new pressed brick, stone and granite Methodist Episcopal Church. Cost, $40,000.

TORONTO, ONT.—Bids are being received for making additions to St. Paul's Episcopal Church, on East Bloor St. E. J. Lennox, Arch., 164 Bay St.

BONDS.—An election will be held May 5 at Omaha, Neb., to decide upon issuing $45,000 for new engine houses.——The Business Women's Club, Louisville, Ky., will issue $50,000 for new building.——Huntsville, Tenn., will vote upon an issue of $100,000 for court house.——$50,000 will be issued for new board of trade building, Jacksonville, Fla.

WATER SUPPLY AND IRRIGATION.

(For foreign water supply and irrigation see under "Foreign Contracts and Export News.")

DEXTER, ME.—Arthur P. Abbott, Chn. Water Comn., writes us that the contract for pipe for the new waterworks has been let to the Camden Iron Works, Camden, N. J. The estimated cost of the plant is $48,000. P. H. Coombs, Cy. Engr., Bangor, Me., is Des. Engr.

DEXTER, ME.—Bids are asked until May 7 for laying about six miles of 6, 8, 10 and 12-in. pipe and setting special castings, valves, hydrants, etc., as is stated in our advertising columns. Arthur P. Abbott, Comr.

CENTRE OSSIPEE, N. H.—Town has secured charter from legislature and contemplates works.

BENNINGTON, N. H.—The contract for connecting local works with the New Bennington system has been let to the Osgood Concrete Co., Nashua, N. H. The work involves the laying of ½ mile 8-in. c.-i. pipe and erection of ten hydrants.

LITTLETON, N. H.—As soon as surveys, now under way, for the proposed pipe line to the north branch of the Gale River are completed an engineer will be engaged to consider the matter. Myron H. Richardson is Secy. Water Comrs.

BARRE, VT.—Council has rejected offer of Smith, Whitcomb & Cook Co. to sell its plant to city for $40,000.

GARDNER, MASS.—Commissioners have been trying to decide at what price town shall purchase plant and franchise of local water company.

MANSFIELD, MASS.—Reports state that this town wishes to issue $10,000 of bonds for extending mains and other improvements. D. S. Spaulding, Water Comr., writes us that it has not been decided yet how much new pipe shall be laid, perhaps ¼ mile of 8-in., and as much more of 6-in. iron pipe will be the amount for the laying.

MAYNARD, MASS.—Town has voted to make changes in feed supply at pumping station. A committee, of which A. G. Haynes is a member, was appointed to investigate matter of further water privileges.

NEWTON, MASS.—We are informed that the legislature was petitioned for leave to withdraw from the Metropolitan Water System and bill introduced covering the petition. The legislature has granted the petition, but the city will continue for the present in the Metropolitan Water District. John N. Weeks, Mayor.

FALMOUTH, MASS.—We are informed that the contract for laying water pipes at Falmouth, Mass., has been let to Bruno & Milano. Louis E. Hawes, 101 Tremont St., Boston Mass., was Des. Engr.

SOUTH BRAINTREE, MASS.—Council has voted $3,000 for extending water system to Holbrook line. T. S. Stevens is Chn. Water Bd.

WILLIAMSBURG, MASS.—Town votes to build reservoir and obtain supply from Nonquemonk Brook. Estimated cost is $47,000. H. C. Smith was Chn. Water Com.

HARTFORD, CONN.—The water board, F. D. Berry, Secy., has voted to build a filtration plant system for Connecticut River water, as was recommended by Allen Hazen, Cons. Engr., New York, N. Y.

NEW BRITAIN, CONN.—It is stated that a 14-in. main is to be laid in Myrtle St. soon at a cost of $20,000. It is also stated that plans will soon be ready for the 140,000,000-gallon reservoir to be built in Wolcott.

NEW LONDON, CONN.—The following bids were received here for new water mains at Fort Mansfield, R. I.: Robt. L. Christie, New York, $10,464; B. D. Pierce, Jr., Co., Bridgeport, Conn., $8,635; Henry H. Morgan, New London, Conn., $8,170; The Lane Construction Corporation, Bridgeport, $7,600; M. J. Fitzpatrick, Newburg, N. Y., $8,837; John J. Fitzpatrick, Newburg, N. Y., $13,000; Darling & Slade, Fall River, Mass., $10,425.

RIDGEFIELD, CONN.—The Ridgefield Water Supply Co. has been sinking a test well and if it proves to be a success it is said the present plant of the company will be abandoned and a new set drilled.

BATAVIA, N. Y.—The Horseshoe Lake Improvement Co., Chas. O. Hodges, Secy., has offered to supply the city with 1,000,000 to 2,000,000 gallons of water at 9 cts. per 1,000 gallons.

CHARLOTTE, N. Y.—Town proposes to sell its water and electric plants to Rochester & Lake Ontario Water Co.

GREENE, N. Y.—Bids are asked until April 29 for furnishing about 20,190 ft. 4-in., 1,463 ft. 6-in. and 7,703 ft. 8-in. cast-iron water pipe; also six tons of specials, as is stated in our advertising columns. Edgar B. Kay, Engr., Ithaca, N. Y.; M. L. Cowles, Clk.

PORT CHESTER, N. Y.—It is stated that the Greenwich Water Co. will acquire land for an additional storage basin.

QUOGUE, N. Y. (L. I.)—The Quantuck water-works is to be extended through East Quoque to Wessic Ave., at a cost of about $8,000.

LOCKPORT, N. Y.—Western New York Water Co. has offered to furnish city with at least 2,000,000 gallons Lake Erie water at 8 cts. per 1,000 gallons. A reservoir would need to be built by the city and this would cost about $75,000.

NAPLES, N. Y.—Water supply may be pumped from spring of Wm. Blodgett at Ingleside.

NEW YORK, N. Y.—Bids are asked by the Commissioner Water Supply, Gas and Electricity, 13 Park Row, until May 5, for furnishing cast-iron water pipes, branch pipes, special castings, hydrants, corporation cocks, etc. Robt. Grier Monroe, Comr.

PENN YAN, N. Y.—Trustees of Keuka College are to have complete system of works for college and park neighborhood.

WAYLAND, N. Y.—We are informed that the construction of the new municipal works will require about five miles 4, 6 and 8-in. cast-iron pipe, 45 fire hydrants, valves, etc.; also reservoir, pumps and gas engines. Bids will probably be received about May 15. W. H. Deitzel, Village Pres.

WOODHAVEN, N. Y. (L. I.)—Reports state that the Woodhaven Water Supply Co., 19 Cliff St., New York, N. Y., has increased its capital stock $100,000 and proposes to extend its mains and improve its works.

HIGH BRIDGE, N. J.—New water company proposed.

HARRISBURG, PA.—A site has been purchased on Bridge Island for the erection of the filtration plant. The plant is to be located at the upper end of the island and the water will be lifted into basins 20 ft. above the river. M. B. Cowden is Cy. Engr.

LANCASTER, PA.—Plans and specifications for the improvement of the city water supply, for which $145,000 was voted, are in the hands of the special water commission, of which Mayor Cummings is Chn.

MAINVILLE, PA.—Village may have works.

SOUTH BETHLEHEM, PA.—It is stated that the Consolidated Water Co. is to take some means for purifying its water supply. Dr. T. M. Drown is Pres. City Water Comn.

RICHMOND, VA.—Bids are asked until May 15 for constructing steel substructure and steel tank; entire cost not to exceed $12,000. Chas. E. Bolling, Supt. W.-W.

MARTINSBURG, W. VA.—Bids are asked until May 21 for constructing pumping plant and improvement of water supply, as stated in our advertising columns. N. Wilson Davis, Engr.; Wm. R. Kline, Chn. Water Bd.

WHEELING, W. VA.—The construction of a new storage reservoir on the Nichols farm is stated to have been proposed by President Butts of the water board.

ELIZABETH CITY, N. C.—A special election is to be held to vote on granting franchise to Baltimore Water-Works & Sewerage Co. The company proposes to secure a water supply from Knobb Creek by pumping. They also propose to erect a filtration plant.

GULFPORT, MISS.—W. F. Wilcox, Mgr. Jackson (Miss.) water-works, has been making preliminary plans for works for this city. The supply is to be from artesian wells and the cost will be about $40,000.

MONROE, LA.—City has purchased plant of Monroe Water-Works & Light Co. for $60,000.

NASHVILLE, TENN.—The city is stated to be considering several propositions for filtering the city water.

LATONIA, KY.—Town has been considering granting of water-works franchise. J. H. Kruse is a trustee.

DEFIANCE, O.—A franchise is to be asked by a local company for the construction of water-works and an electric light plant, surveys for which are already said to have been made.

MILFORD, O.—Mayor J. K. Buckingham writes us that the water-works trustees are to secure plans and specifications and receive bids for constructing works, the estimated cost of which are to be about $26,500. W. E. Mossigner is a W.-W. Trustee.

VERMILLION, O.—City plant may be built.

VALPARISO, IND.—Reports state that local capitalists are organizing a stock company to buy the Valparaiso water plant. The price placed on it by the court is $85,000.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

AGRICULTURAL COLLEGE, MICH.—The contract for water-works at the college has been let to Brooks & Sons, Jackson, Mich.

BENTON HARBOR, MICH.—Plans and specifications have been adopted for addition to pumping station.

MT. CLEMENS, MICH.—New engine and boilers for water-works station have been voted.

CARLINSVILLE, ILL.—Geo. Siegel, Supt. W.W., writes us that a date has not been set as yet for opening bids for the proposed water-works extensions and new supply pipe. The cost of the work is estimated at about $40,000 and John W. Alvord, 127 Hartford Bldg., Chicago, Ill., is Des. Engr.

CHICAGO, ILL.—It is stated that three triple-expansion pumps of 25,000,000 gallons daily capacity are to replace the old pumps in the station at Chicago Ave. and Lincoln Park Ave.

DECATUR, ILL.—Fred. Litterer, Engr. at the water-works, is to make a report to the council soon and will, it is said, recommend that improvements be made to the plant.

JOLIET, ILL.—The contract for a water tower for the west side has been let to the Chicago Bridge & Iron Co., Chicago, Ill., for $15,000.

LAKE FOREST, ILL.—City may buy local works.

STREATOR, ILL.—The contract for the 3,000,000-gallon reservoir of the New Paltz Water-Works Co. has been let to John H. Hasbrouck & Son.

PROPHETSTOWN, ILL.—We are informed that plans for the proposed works have been secured, but action on them was not to be taken until after the election April 21. The Iowa Engineering Co., Clinton, Ia., is Des. Engr.

QUINCY, ILL.—City may purchase or build new works. John A. Steinback is Mayor.

APPLETON, WIS.—City has offered Appleton Water-Works Co. $265,000 for its works. The company, however, wants $315,000.

BARABOO, WIS.—The Baraboo water-works plant has been sold under foreclosure proceedings to H. G. Merritt for $75,000. It is reported that the plant will be operated by a company—the Baraboo Water Co., recently incorporated with $50,000 capital.

STEVENS POINT, WIS.—F. Rothman, Mayor, writes us that negotiations are about to be taken up with the present owners of the local water-works plant.

CEDAR RAPIDS, IA.—City has purchased local works for $473,000.

EXIRA, IA.—It is stated that G. Hunter, Atlantic, Ia., has been engaged on plans for a stand-pipe water mains for extending local works.

SIOUX CITY, IA.—J. M. Lewis, Cy. Engr., writes us that the extension of the water-works plant and system will consist of a new station, 23,000,000-gallon pumps, three 120-HP. boilers, a number of new driven wells, the lowering of suction mains around station; also one sub-station with 2,250,000-gallon pump and stand-pipe, two miles of 16-in. main, 1½ miles 12-in. main, together with hydrants, valves, etc. The total estimated cost is $250,000.

TOPEKA, KAN.—The city will vote on a proposition to pay $620,000 for the local water-works plant. Albert Parker is Mayor.

BERESFORD, S. DAK.—Bids are asked until May 4 for material and work for laying 750 ft. 6-in. water mains and one hydrant. N. C. Nissen, Cy. Auditor.

PARKER, S. DAK.—Mayor H. C. Pfeiffer writes us no contracts have been let for new city works; cast-iron mains and meters will be used. An election was to be held April 21. Population, 1,200.

SALEM, S. DAK.—Compressed air system of works may be installed. Jerome Sweinhart is Mayor.

SIOUX FALLS, S. DAK.—A committee has been looking into matter of improving water service by purchase of local company's plant or granting of new franchise.

LEXINGTON, MO.—Works of Lexington Water Co. have been purchased by Gustav Haerle, who has announced the mains will be extended and the system otherwise improved.

MARSHALL, MO.—City votes April 28 on purchase of local works for $40,000.

RICHMOND, MO.—Filter plant discussed.

AUSTIN, TEX.—A bill has been before the legislature appropriating $150,000 for water-works for state institutions.

BAY CITY, TEX.—It is stated that the Nile Valley Canal & Pumping plant has been sold to R. Miller for $13,011.

BELTON, TEX.—City is to sell its works.

EAGLE PASS, TEX.—G. Bedell Moore, San Antonio, Tex., will, it is said, put 13,000 acres of land nine miles below here under irrigation.

TAYLOR, TEX.—Oscar Frink, Cy. Secy., writes us that Jno. W. Maxcy, Cons. Engr., Houston, Tex., has been employed to appraise the value of the present water plant and to prepare estimates on an entirely new system. Work contemplated will require the expenditure of about $100,000.

TISHOMINGO, IND. TER.—City works favored.

SILVERTON, COLO.—We are informed that about 1½ miles of 10-in. galvanized-iron pipe is wanted for proposed increase of city water supply. The appropriation for the work is $10,000. N. A. Bullan, Mayor.

LAS CRUCES, NEW MEX.—The people of Mesilla Valley are said to wish an irrigation reservoir near Elephant Butte, on the Rio Grande River.

EAST LAS VEGAS, NEW MEX.—It is probable that a government reservoir will be established about four miles above this city.

CHEHALLIS, WASH.—It is stated that the Chehallis Water Co. will seek a new source of supply.

DOWNS, WASH.—The contract for 6,300 ft. pipe for local works has been let to the Washington Pipe Co.

SEATTLE, WASH.—Resolutions before council to terminate contract to supply water to Ballard.

TACOMA, WASH.—Contract for main in St. Paul Ave. has been let to Washington Pipe & Foundry Co. for $1,184.

CORVALLIS, ORE.—Bids are asked until May 10 for furnishing city water-works system. E. P. Greffog, Police Judge.

DALLAS, ORE.—$15,000 has been voted for works. It is proposed to pipe water from Cangue Creek, seven miles from city, to a reservoir. J. C. Hayter is Mayor.

UNION, ORE.—The city will lay 5,000 ft. water mains this season.

ALTURAS, CAL.—J. A. Yaets is said to contemplate the construction of works here.

OAKLAND, CAL.—City works being considered.

LOS ANGELES, CAL.—The Highland Park Improvement Association is urging the construction of a reservoir to supply that locality.

SAN JACINTO, CAL.—R. J. Waters, of Los Angeles, is stated to be interested in a project for supplying water. The system will cost $100,000.

SAN JOSE, CAL.—Reports state that the Bay Cities Water Co. has filed notices covering all the water rights of the upper Yzibel, Bonita and Smith creeks in the Mt. Hamilton Range. It is said that the Bay Cities Co. will divert the waters by means of a dam, ditches and tunnel into the Coyotte River.

SANTA ROSA, CAL.—The Holly Manufacturing Co., Lockport, N. Y., has offered to supply the city with a Holly pumping engine, 2½ millions daily capacity, for $15,000.

MT. PLEASANT, UTAH.—Mayor George Christensen writes us that the city has voted to issue bonds for works and that negotiations are now pending for awarding the contract for furnishing plans and specifications. The work is to be pushed with all possible speed; population, 2,800.

PHOENIX, ARIZ.— The government has decided to construct a land-reclamation reservoir in the Tonto Basin, 60 miles from this city. The reservoir will be about 30 miles long and will cost $2,500,000.

CARSON CITY, NEV.—The stock of the Rockland Canal Co. has been transferred to the Colorado Delta Canal Co., and it is stated that system will be extended.

RENO, NEV.—Reports state that a pipe line is to be run from Clear Creek to the Carson Indian School, a distance of about two miles.

SALT LAKE CITY, UTAH.—It is stated that it has been practically decided to construct an irrigation reservoir in Ogden Canyon, capable of holding 2,000,000,000 cu. ft. of water. The cost of the work is estimated at $300,000. R. S. Campbell is Mgr. the Utah Light & Power Co., which is one of the companies interested in the project.

DARTMOUTH, N. S.—The present water supply is said to be inadequate and new sources are sought.

DUNDALK, ONT.—Works to be voted on.

OTTAWA, ONT.—The city engineer writes us that estimates are being made for an auxiliary steam plant of 12,000,000 gallons capacity. The Ottawa River is the source of the new supply.

ST. CATHERINES, ONT.—City may borrow $40,000 for extension of water mains and other improvements. Chas. Conner is Cy. Solicitor.

BONDS.—Buffalo, N. Y., has bill before legislature for $500,000 bond issue for constructing water-works.——Gulfport, Miss., will issue $60,000 water-works, etc., bonds; see item elsewhere in this column.——Grand Rapids, Mich., votes to issue $170,000 water-works bonds.——Vermillion, O., votes to issue bonds for water-works.——Topeka, Kan., council will authorize issue of $350,000 of bonds for purchase of works.——Springfield, Neb., will vote on bond issue for works.——Springfield, S. Dak., votes to issue $3,000 of bonds for works. H. M. Davison is Mayor.——Mt. Vernon, S. Dak., will vote May 4 on issue water-works construction bonds.——Salem, S. Dak., talks of making a $3,000 bond issue for works. See item elsewhere in this column.——Sioux Falls, S. Dak., can issue $210,000 of bonds for water-works.——Liberty, Mo., Edgar Main, county surveyor, writes us that bond issue for works was voted down.——Fort Collins, Colo., votes to issue $200,000 water-works bonds.——Dallas, Ore., votes $15,000 bonds for water-works. See item elsewhere in this column.——Antioch, Cal., has voted to issue $30,000 bonds for works and sewerage.——Oakland, Cal., is considering bond issue for water-works.——San Diego, Cal., votes April 25 on following bond issues: $199,000 for improvements and extensions water system; $140,000 for sewer system; $39,000 for street work; $37,000 for fire department; $66,000 for storm sewers; $5,000 for bridges; $14,000 for city hall. G. A. d'Hernecourt, Cy. Engr.——Santa Barbara, Cal., may vote May 6 on $280,000 bond issue for developing water supply, new bridges, sewers and boulevards.——Spanish Fork, Utah, will issue $16,750 of bonds for works.——Nez Perce, Idaho, voted April 21 on $6,700 bond issue for constructing works.

NEW COMPANIES.—Mt. Gilead Water, Light, Heat & Power Co., Mt. Gilead, O., has increased its capital stock $10,000.——Baraboo Water Co., Baraboo, Wis.; $50,000; W. G. Maxcy, Oshkosh; H. G. Merritt, F. H. Dean, Baraboo. See item elsewhere in this column.——Fort Sumner Irrigation Co, Santa Rosa, N. Mex.; $100,000; Henry B. Jones, Luther M. Shely, Santa Rosa, N. Mex.; Wm. R. McGill, Fort Sumner, N. Mex.——Gravity Canal Co., Bay City, Tex.; $300,000; Burton D. Hurd, Vernon O. Ford, and D. E. Ford; The Wachusett Water Co., Portland, Me.; $200,000; H. M. Oliver, Boston, Mass.; P. J. Larra-Peak, Colo.; $10,000; Wm Johannbroer, Joseph Kayser. Co., Providence, R. I.; $100,000; Ensign R. Nixon, Providence; R. D. Bullock, Bristol, R. I.——Fillmore Water-Works Co., Fillmore, N. Y.; to supply Havre and Fillmore with water.——Little Falls Water Co., Little Falls, N. J.; $60,000; H. C. Tillson, W. R. Smith, Henry S. Dechart.——Confluence Water Co., Confluence, Pa.; $20,000; W. D. Gilchrist, Dr. W. S. Mountain; H. M. Gephart, Connellsville, Pa.——Kayser Mutual Ditch Co., Hahns Peal, Colo.; $10,000; Wm. Johannbroer, Joseph Kayser.——Oasis Ditch & Reservoir Co., Denver, Colo.; $10,000; Geo. J. Humbert, Edw. A. Smith, Henry J. Porter.——San Pablo & Oakland Artesian Water Co., Oakland, Cal.; $200,000; W. B. Hellings, A. W. Craig, J. R. Little, Berkeley, Cal.——Riverdale Bench Canal Co., Riverdale, Utah; $9,000; John T. Bybee, W. C. Parker.

SEWERAGE.

(For foreign sewerage work, see under "Foreign Contracts and Export News.")

CAMBRIDGE, MASS.—The sewer committee has ordered 19,850 ft. of sewers constructed in various streets.

DEDHAM, MASS.—The rebuilding of High St. sewer is being discussed.

FAIR HAVEN, MASS.—The Shone sewer, 3,800 ft., in the Pease district, will be built at cost of $23,150.

LEOMINSTER, MASS.—A. L. Whitney, Chn. Sewer Com., writes that an appropriation has been made for the proposed sewerage disposal.

NORTH ADAMS, MASS.—Mayor Stafford recommends appropriation of $14,851 for surface water sewers in various streets.

QUINCY, MASS.—The sum of $70,000 has been appropriated for constructing a trunk line sewer.

SOMERVILLE, MASS.—$25,000 appropriated for sewers.

SOUTH HADLEY, MASS.—Plans and estimates will be prepared for the sewer system. Next meeting will be held May 2.

BRIDGEPORT, CONN.—The Pierce Mfg. Co. received the contract for extending the Thompson St. trunk sewer at $12,443.

HARTFORD, CONN.—Work will soon start on Franklin Ave. sewer, for which $80,000 has been appropriated.

NEW HAVEN, CONN.—The following contracts have been awarded: J. B. Whittley, Pine St. sewer, $2,770; T. F. Maher, Lombard St. sewer, $13,540, and L. O'Brien, Woodland St. sewer, $948.

NEW HAVEN, CONN.—Bids are asked until April 27 for constructing storm water sewer in Water and Chestnut Sts. C. W. Kelly, Cy. Engr.

NEW LONDON, CONN.—Bids are asked by board sewer commissioners until May 7 for constructing a submerged 18-in. wooden outfall sewer, as stated in our advertising columns. W. H. Richards, Engr.

ALBANY, N. Y.—Ordinances for constructing a pipe sewer across First Ave. and along Charles St. are now before the council and will be acted upon April 20. T. A. Bresler, Clk. of Council.

AMSTERDAM, N. Y.—F. E. Crane, Supt. of Sewers, writes that bids for sewers have been rejected and new ones will be received May 20.

AMITYVILLE (L. I.), N. Y.—The Brunswick Home Co. will erect a sewage disposal plant.

BROOKLYN, N. Y.—Bids are asked by Borough President, Municipal Bldg., until April 29, for constructing 62 sewer basins and appurtenances.

BUFFALO, N. Y.—A 10 to 20-in. tile sewer will be constructed in Kenmore Ave., at cost of $4,659.

LONG ISLAND CITY, N. Y.—Bids are asked by Borough President, Borough Hall, until April 30 for constructing 2,509 ft. of 12 to 15-in. pipe sewer in 13th Ave. and Lockwood St.

MEDINA, N. Y.—The question of more sewers is being discussed.

NEW BRIGHTON, N. Y.—T. S. Oxholms writes us that bids will soon be asked for constructing Osgood Ave. sewer.

NEW YORK, N. Y.—President Swanstrom has recommended the construction of relief sewers at cost of $300,000.

OSWEGO, N. Y.—City Engineer Ormsby has been directed to prepare plans for sewers in Varick, East Fourth and Fifth Sts.

PLATTSBURGH, N. Y.—The question of sewers is receiving consideration.

PLEASANTVILLE, N. J.—Sewage disposal plant considered.

CORTLAND, N. Y.—The board public works has received petitions for about 4,000 ft. of sewer extensions.

ALLENTOWN, PA.—Reports state that a private corporation will apply for franchise for constructing sewer system. F. E. Lewis is Mayor.

LOWER MERION, PA.—Bids are asked until May 4 for constructing sewer system.

SOUTH BETHLEHEM, PA.—G. H. Hardner submitted the lowest bid for sewer system for $102,900.

SUNBURY, PA.—The construction of a sewer system by a private corporation is likely.

WILMINGTON, DEL.—T. E. Hattan, Consult. Engr., writes that bids will probably be asked May 15 for constructing 5,700 ft. of the Price's Run sewer. Concrete, 4¾ to 9¼ ft., with cut of 12 ft., at cost of $90,000.

WASHINGTON, D. C.—Bids are asked until June 6 for constructing sections B and C of the B St. and New Jersey Ave. trunk sewer, as stated in our advertising columns. H. B. Macfarland, H. L. West and J. Biddle, Comrs.

NEWPORT NEWS, VA.—W. G. Morris, Phoebus, received contract for sewer extension at Fort Monroe, for $3,743.

BIRMINGHAM, ALA.—As soon as the $300,000 bonds are sold, bids will be asked for constructing the sewer system.

HARRIMAN, TENN.—Bids are asked by water and light commissioners until May 1 for constructing 7,220 ft. of 8 to 18-in. pipe sewer, 240 branches, 37 manholes, etc. F. J. Manley, Cy. Engr.

NASHVILLE, TENN.—Bids are asked until April 30 for constructing about 2,500 ft. of sewer and excavating about 14,500 cu. yds. 1,750,000 brick will be needed. Also for brick sewers and water mains in various other streets.

CINCINNATI, O.—Plans have been prepared for sewer in Fairmount Ave. G. F. Holmes is Cy. Clk.

CLEVELAND, O.—Bids are asked by board public works until April 30 for constructing sewer in Moltke St.——Bids are asked until May 14 for sewer in Colgate St. C. P. Salen, Dir. Pub. Wks.

COLUMBUS, O.—An 8 to 27-in. sewer will be constructed. Plans by City Engineer.

COLUMBUS, O.—Julian Griggs, Ch. Engr. Dept. Pub. Impvts., informs us that the following bids were received on April 14 for constructing about 49,342 ft. of from 6 to 81-in. sewers; advertised in Engineering News: In Greenlawn Alley, Louis Lind, Columbus, O., $2,064; Back St. relief sewer, C. T. McCracken & Co., Cleveland, brick, $36,933; concrete, $35,892; concrete and steel, $35,577; West Side sanitary sewer, Lee & Casey, Pittsburg, Pa., $31,737; N. B. Abbot, Columbus, $31,982; Central relief sewer, Adams Bros., Zanesville, brick, $78,907; concrete, $84,980; concrete and steel, $91,053; C. T. McCracken & Co., brick, $70,016; concrete, $69,796; concrete and steel, $68,187.

GIRARD, O.—The plans and specifications for the sewer system and disposal plant have been accepted. Snow & Barbour, Civil Engrs., Boston, Mass.

TOLEDO, O.—Cylindrical pipe sewers will be constructed in Hogue and Buckeye Sts. and in alley north of Walbridge Ave. C. H. Nauts, Cy. Clk.

ANDERSON, IND.—City Engineer Roberts will prepare plans for sewering Green's branch.

LINTON, IND.—Bids have been asked for constructing sewer system. Cost $75,000 to $100,000. (See "Streets and Roads.")

GRAND RAPIDS, MICH.—The sewer system, including the pumping, will cost about $150,000.

SAGINAW, MICH.—Plans and specifications will be prepared for constructing sewers in Woodbridge, Brown, Bond and Cornelia Sts.

BELLEVILLE, ILL.—Bids are asked until May 5 for constructing West Main St. sewer, about 4,600 ft. in length; estimated cost, $15,000, as stated in our advertising columns. G. H. Beinecke, Secy. Bd. Local Improvements.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

DE KALB, ILL.—C. T. Bartlett, Evanston, received the contract for constructing the North and Fourth St. sewers for $4,300.

HARVARD, ILL.—Bids are asked until April 25 for digging a drain about 4½ miles, 10 ft. deep and 12 ft. wide, costing $7,500. C. J. Hendricks, Atty.

DES MOINES, IA.—Bids are asked until May 15 for constructing sewage purification plant at Fort Des Moines. Major R. B. Turner, Q. M.

MINNEAPOLIS, MINN.—A sewer will probably be constructed in 19th Ave. N.

ST. PAUL, MINN.—System on the West Side, costing $18,976, is talked of.

SIOUX FALLS, S. D.—A sewer system contemplated.

RED LODGE, MONT.—System is contemplated.

AUSTIN, TEX.—The following bids received for constructing Congress Ave. sewer: F. Fischer, brick storm sewer, $24,000; John Field, concrete, $20,217; brick, $26,419; J. Wattinger, concrete, $23,000; brick, $26,500; J. Watterson, concrete, $24,430; brick, $26,625; John Rex, concrete, $22,159; brick, $24,534, and stone, $24,448.

GUTHRIE, OKLA.—W. S. Gamble, Acting Engr., has condemned lateral sewer Nos. 10 and 11 and has ordered the contractor to tear them up and relay sewers in compliance with the specifications.

MANITOU, COLO.—E. A. Sawyer, Engr., has completed the preliminary survey for the sewer system, which will cost about $17,000. The pipe will be 8 to 12 ins. in diameter.

BALLARD, WASH.—Plans being prepared for system.

SEATTLE, WASH.—The cost of sewerage will amount to $108,000.

ASTORIA, ORE.—Reports state that a sewer will be constructed on the west side of 18th St.

OREGON CITY, ORE.—Reports state that bids will soon be asked for constructing a sewer in district No. 3. Cost, $15,000.

PORTLAND, ORE.—It is stated that resolutions for constructing various sewers have been passed. Estimated cost, $5,901.

PORTLAND, ORE.—Ordinances have been recommended by the sewer committee for sewers on East 26th, East Alder, East Morrison, East 20th, East Washington, East 12th and East 38th Sts.

ALAMEDA, CAL.—Local papers state that a sewer will be constructed on Blanding Ave. and Everett St.

LOS ANGELES, CAL.—Reports state that the sewer committee has recommended the drawing of plans for the ocean end of outfall sewer. Bids will soon be asked.

SAN FRANCISCO, CAL.—Reports state that the city engineer has recommended the construction of various sewers at cost of $690,750.

SACRAMENTO, CAL.—Reports state that a sewer will be constructed in the alley between J and K Sts.

SYDNEY, N. S.—System being discussed.

VICTORIA, B. C.—Sewer extensions will be made at cost of $4,000.

BONDS.—A $50,000 issue is being discussed by Marysville, Cal.——Sumpter, Ore., is discussing a bond issue.——Bonds may be issued for sewer system.——An election will be held June 9 by Lebanon, Ia., to decide upon issuing $500,000.——Jackson, Mich., will issue $100,000 for sewer system.——Mayor Grainger has recommended an issue of $3,000,000 for sewer construction, Louisville, Ky.——Buffalo, N. Y., may issue $250,000 for sewer system.——Bonds may be issued by Omaha, Neb., for sewer.

GARBAGE DISPOSAL—STREET CLEANING

LYNN, MASS.—The Stephenson Co., of this city, has received an order from the street cleaning department of New York city for a number of sweeping receivers.

NEW YORK, N. Y.—Bids are asked by the park department until April 30 for furnishing 12 sprinkling trucks. Wm. R. Willcox, Comr.

SHREVEPORT, LA.—Bids are asked until May 18 for erecting crematory for the incineration of garbage. The cost of the plant is not to exceed $10,000. C. G. Rives, Cy. Comptroller.

JACKSONVILLE, FLA.—It is stated that Judge A. O. Wright is interested in a project for establishing a $100,000 garbage plant in this city.

CHICAGO, ILL.—F. W. Blocki, Comr. Pub. Wks., has been preparing plans for a 120-ton daily capacity garbage cremating plant, to be erected on the Bridwell grounds.

MADISON, WIS.—The city is said to have voted to construct a garbage and sewerage disposal plant. O. S. Norseman is Cy. Clk.

KANSAS CITY, MO.—A local press report states that the disposition of the city garbage is arousing grave concern. At present the garbage (some 45,000 tons yearly) is dumped into the Missouri River. Health Officer Waring is said to favor the amendment of the city charter so that a contract can be let for incinerating the garbage for a term of years, instead of from year to year, as would be required by the present articles of incorporation.

SEATTLE, WASH.—Press reports state that a bill has been before the council to grant P. G. Yaw a 30-year franchise to collect and burn the garbage of the city. Dr. F. M. Carrol is Health Officer.

OAKLAND, CAL.—The Pacific Incinerating Co. has been incorporated by A. S. Lilley, W. W. Thurston and Geo. W. Reed. The company will erect a garbage crematory at 26th and Magnolia Sts.

STREETS AND ROADS.

CHESTERVILLE, ME.—Bids are asked until April 25 for building road around Stinchfield Hill. C. W. Small, Selectman.

PORTLAND, ME.—Various streets have been ordered paved with granite blocks and macadam at cost of $29,735.

ASHLAND, N. H.—Bids are asked until May 1 for macadamizing streets. A. W. Dudley, Des. Engr., Manchester.

RUTLAND, VT.—West St. and Library Ave. will probably be macadamized at cost of $3,000.

HAVERHILL, MASS.—Bids will soon be asked by the road commissioners for building the Merrimac road. Estimated cost, $10,000.——The Lane Construction Co., Meriden, Conn., received the Amesbury road contract for $8,659.

CHELMSFORD, MASS.—Plans have been prepared for widening Lowell St.

MAYNARD, MASS.—Main St. will be macadamized at cost of about $4,000.

SPRINGFIELD, MASS.—Coles & Childs, Amherst, received the contract for constructing state road for $14,000.

WESTFIELD, MASS.—The sum of $25,000 has been appropriated for highways, macadam, catchbasins, etc.

WARREN, MASS.—Depot Square will be macadamized at cost of $1,200.

PORTSMOUTH, R. I.—The macadamizing of Sandy Point road will be voted upon May 6.

NEWPORT, R. I.—The following bids have been received for macadam roads at Fort Rodman, Mass., by Capt. T. H. Slavens: Lane Construction Corporation, Meriden, Conn., $4,449; W. A. Murtfeldt Co., Boston, $3,756; J. J. Sullivan, Boston, $6,489; Warren Bros. Co., Boston, walks only, $1,135.

WOONSOCKET, R. I.—Clinton St. will be improved by bitulithic paving at cost of about $26,000.

LITCHFIELD, CONN.—Bids are asked by board of selectmen until April 24 for constructing a telford road. A. Catlin, E. T. Harris and Wm. Gibbs, Selectmen.

NEW HAVEN, CONN.—C. W. Kelly, Cy. Engr., writes us that bids will be asked about April 24 for paving Cedar St. with crushed stone. Cost, $6,500.

BROOKLYN, N. Y.—Widening Livingston St. discussed.

BUFFALO, N. Y.—Bids are asked by board public works until April 24 for paving Hampshire, Seneca, Buffalo, Clinton, Bond, Krettner and Rohr Sts. and Unger Ave. F. G. Ward, Comr.

NEW YORK, N. Y.—Bids are asked by Bronx Borough President, Third Ave. and 177th St., until April 27, for paving 114,550 sq. yds. with asphalt, furnishing 15,050 cu. yds. of concrete, curbstone, excavating, etc.——Bids are asked until April 28 for paving 119,677 sq. yds. with asphalt, furnishing 3,253 cu. yds. concrete and 369 noiseless manhole covers.

BROOKLYN, N. Y.—Bids are asked by the Borough President, Municipal Bldg., until April 29, for constructing 56,435 sq. ft. cement concrete sidewalks, paving 10,040 sq. yds. with wood block, 31,409 sq. yds. asphalt, 6,208 sq. yds. granite and furnishing 4,737 cu. yds. concrete.

COHOES, N. Y.—Paving on Vliet and other streets discussed.

LYONS, N. Y.—A petition is being circulated for paving Phelps St. Estimated cost, $6,000.

ROCHESTER, N. Y.—Joseph Ave. and Rhine St. will be paved with Medina stone at cost of $12,600. Clifford St. discussed.

ROCHESTER, N. Y.—The following bids have been received for paving Central Park St.: (1) brick; (2) trap rock; (3) asphalt: (1) Whitemore, Rauber & Vicinus, $30,190; Brayer & Albaugh, $34,478; H. N. Cowles, $31,604; Lauer & Hagaman, $32,596; (2) H. N. Cowles, $30,754; L. & H., $33,434; Brayer & Albaugh, $34,280; (3) Rock Asphalt Pavement Co., $26,952; Rochester Vulcanite Pavement Co., $26,931; W., R. & V., $28,797; Barber Asphalt Paving Co., $29,143. Rochester Vulvanite Pavement Co. will probably receive the contract for asphalt. F. A. Brotsch was lowest bidder for Kislingbury St. trap rock paving at $3,585.

SENECA FALLS, N. Y.—H. C. Allen, Engr., Syracuse, writes us that the road from Waterloo to this place will be macadamized for 1½ miles at cost of $10,850.

MILFORD, N. Y.—An appropriation of $35,000 has been made for macadamizing public roads.

MORRISTOWN, N. J.—G. A. Becker, Dir. Bd. Freeholders, writes that the following contracts have been awarded: Sussex and Newtown Turnpike, 6,280 ft., J. B. & H. K. Salmon, Lidgewood, N. J., $7,571; Morristown and Greenvillage road, 17,931 ft., Dickerson & Gill, Rockaway, N. J., $14,603, and Boonton and Newtown road, W. J. & A. G. Bunn, Singac, 22,600 ft., $13,920.

EBENSBURG, PA.—Bids are asked until May 1 for furnishing 1,200,000 paving brick. Wm. Davis, Pres. of Council.

BALTIMORE, MD.—The Joppa road will be improved at cost of $2,300. Engineer Crosby has prepared specifications.

NASHVILLE, TENN.—Bids are asked until April 30 for macadamizing various streets.

CARDINGTON, O.—Petition is in circulation for improving Marion Pike.

CELINA, O.—Walnut St. will be paved. F. H. Kreusch is Village Clk.

CINCINNATI, O.—Bids are asked by board public service until May 1 for paving Fairfax Ave. with brick. Robt. Allison, Pres.

CLEVELAND, O.—Bids are asked by board commissioners until May 6 for planking with white oak the North Woodland road. W. H. Evers, Cy. Engr.

NAPOLEON, O.—Bids are asked until May 4 for macadamizing Haley Ave. N. Fiser, Clk.

SPRINGFIELD, O.—Cement sidewalks on Clifton Ave. are being discussed. R. W. Frey is interested.

TOLEDO, O.—Bids are asked until May 18 for paving John, Wakeman, Ontario, Floyd and Superior Sts. with either asphalt, Athens blocks, Massillon blocks, etc. C. H. Nauts, Cy. Clk.

TOLEDO, O.—Millard Ave. will be paved with brick, asphalt or Medina block.——G. H. Bodette received the contract for paving John St. with Medal blocks.——Robenwood Ave. will probably be paved with asphalt.

WESTON, O.—Bids are asked until May 11 for about 6,540 sq. yds of brick pavement and necessary drainage.

YOUNGSTOWN, O.—Bids will soon be asked for constructing sidewalks. W. I. Davis is Cy. Clk.

BLUFFTON, IND.—D. O. North, Engr., writes us that bids are asked by county commissioners until May 19 for constructing 56,592 ft. of gravel road.

CRAWFORDSVILLE, IND.—City Engineer Simpson's estimates for paving is $39,000, including sidewalks and curbs.

FRANKFORT, IND.—C. E. Cheney, Cy. Engr., writes us that brick will be used in paving West Washington, Morrison and Columbia Sts.; estimated quantities, 19,000 sq. yds. Crushed stone will be used on other streets.

LINTON, IND.—Bids have been asked for paving with brick, costing $75,000 to $100,000 (see Sewers).

LAFAYETTE, IND.—Bids are asked until April 27 for constructing cement sidewalks and brick alley crossings. C. F. Williams, Cy. Clk.

NEW CASTLE, IND.—The paving material is being discussed.

VERSAILLES, IND.—Bids are asked until May 6 for constructing five miles and 340 ft. of macadam road in Johnson township. J. A. Spencer, Aud. R. C.

FAIRVIEW, MICH.—The sum of $125,000 will probably be spent on paving.

MOLINE, ILL.—A petition for paving 17th St. and Ninth Ave. is in circulation.

SAGINAW, MICH.—Paving question discussed. City Engineer Roberts may advertise for bids on macadam, asphalt, etc.

SPRINGFIELD, ILL.—Board public improvements recommends paving North Grand Ave.

MILWAUKEE, WIS.—The material for paving Third St. is under discussion.

OSHKOSH, WIS.—The paving of Algoma St. is being talked of. C. W. Davis is interested.

WATERTOWN, WIS.—Bids are asked by board public works until May 9 for improving North First and Third Sts. H. Bieber, Cy. Clk.

DAVENPORT, IA.—Cost of macadamizing roads will be $17,000.

DES MOINES, IA.—Brick will probably be used in paving 30th St. Other streets will be improved.

LE MARS, IA.—Eight blocks will be paved on Main St.

WASHINGTON, IA.—D. C. Kyle, Cy. Engr., writes us that bids will be asked in May for $15,000 sq. yds. brick paving.

DULUTH, MINN.—Bids will be asked for paving Superior St.

ST. PAUL, MINN.—Maria Ave. will be paved.——The Barber Asphalt Co. received contract for paving 12,000 sq. yds. on East Sixth St. with asphalt for $23,881.

BEAUMONT, TEX.—Bids are asked for constructing 27 blocks of asphalt or brick pavement.

ORANGE, TEX.—The Progressive League is back of the movement to build a road to Lake Sabine.

SPOKANE, WASH.—Bids are asked by board public works until April 28 for paving Monroe St. L. B. Hanley, Secy.

TACOMA, WASH.—An appropriation of $10,000 has been made for a survey for a wagon road through Mount Ranier National Park.——Ordinance introduced for paving Sixth St. with asphalt or bituminous macadam.

WALLA WALLA, WASH.—We are informed that the two principal streets will be paved. R. P. Reynalds, Cy. Clk.

ASTORIA, ORE.—Fourth St. will be macadamized. J. McClure is interested.

PORTLAND, ORE.—Reports state that Union Ave. will be improved at cost of $14,443. Also asphalt paving on Sixth St.

BERKELEY, CAL.—Local papers state that Louisa St. will be macadamized. E. Q. Turner is Supt. of Sts.

SACRAMENTO, CAL.—Eighth St. will be improved by an asphalt pavement and gutter drains. L. F. Reeber, Supt. of Sts.

SAN FRANCISCO, CAL.—The board public works has recommended the paving of various streets at cost of $378,340.

TOMBSTONE, ARIZ.—A wagon road will be built from Mayer to Fossil Creek at cost of $30,000.

PAYETTE, IDAHO.—The Payette Improvement Co. will build a wagon road about 24 miles long at a cost of about $121,000.

BOISE, IDAHO.—An appropriation of $20,000 has been made for building the wagon road to Thunder Mountain. F. E. Johnesse, Supt.

CARLETON COUNTY, ONT.—The sum of $270,000 will be spent on good roads. J. P. Featherston, County Clk.

TORONTO, ONT.—City Engineer Rust has recommended the paving of various streets at cost of $74,540. Also brick and macadam paving on Spadina Ave., Clarence and McGee Sts., at cost of $13,910.

ORILLIA, ONT.—Granolithic sidewalks will be laid at cost of $20,000. C. E. Grant is Cy. Clk.

WINDSOR, ONT.—A by-law will be submitted authorizing the council to raise $27,000 for street improvements.

MONTREAL, QUE.—The sum of $220,000 will be spent on streets and sidewalks.

BONDS.—Dallas, Tex., may issue $100,000 in road improvement bonds. S. C. Coleman, County Comr.——Paving bonds may be issued by South Omaha, Neb.——Montgomery, Ala., is discussing a bond issue.——Cohoes, N. Y., may issue $50,000 for paving.——Grafton, W. Va., will receive bids until May 2 for the purchase of $90,000 street improvement bonds.——Bids are asked by Geneva, N. Y., until April 23 for the purchase of $46,500 of appropriation bonds.

MANUFACTURING PLANTS.

(For foreign manufacturing plants, see under "Foreign Contracts and Export News.")

ORONO, ME.—Thomas & Crowell, Bangor, submitted plans for the University of Maine's mechanical and electrical departments, which were accepted; $35,000 appropriated.

FALL RIVER, MASS.—Reports state that W. T. Henry, Arch., is preparing plans for additions to the Osborn Mills.

SCHENECTADY, N. Y.—Bids will soon be asked for erecting the General Electric Co.'s 150 × 600-ft. machine shop. There will be 1,000 additional men employed. The Buckley Construction Co. received the contract for erecting the 150 × 200-ft. power station for $90,000.

PHILADELPHIA, PA.—S. B. McDowell received contract for erecting E. Harrington Son & Co.'s 4-story brick machine shop, 100 × 197 ft., at 17th and Callowhill Sts., for $100,000.——The Newhall Engineering Co., 136 South Fourth St., will soon award contract for J. J. Griffin & Co.'s 5-story brick and steel fireproof factory, 90 × 120 ft., at 15th and Race Sts.——The American Pulley Co., 29th and Bristol Sts., is receiving bids for 3-story brick and steel building.

PHILADELPHIA, PA.—Henderson & Co. received contract for erecting 3-story brick factory, 95 × 121 ft., and addtion 73 × 44 ft., on Woodland Ave., for J. G. Brill Co. Cost, $50,000.

CLIFTON, VA.—The Chesapeake & Ohio Ry. Co.'s shops may be enlarged.

NORFOLK, VA.—The Monumental Iron & Wire Works will probably locate at this place.

ANDERSON, S. C.—A $25,000 canning plant may be erected. T. C. Walton, Chamber of Commerce.

COLUMBIA, S. C.—A paint factory will be erected at cost of $300,000. About 1,000 hands will be employed. H. Pannill, Wilmington, N. C., is interested.

AMERICUS, GA.—The Virginia Carolina Chemical Co. will erect a $50,000 acid plant. N. C. Pike is Supt.

ATLANTA, GA.—Wm. Hooley will erect a building on Broad St.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

BRUNSWICK, GA.—The Garrett-Cromwell Engineering Co., Cleveland, O., received the contract for erecting the Mohawk Valley Co.'s plant for $10,000,000.

BUCHANAN, GA.—Messrs. Eaves & Sons will probably erect a warehouse.

COLUMBUS, GA.—S. T. Whitaker contemplates establishing a candy factory at this place.

SAVANNAH, GA.—A $1,000,000 sugar refinery may be erected. A. M. Allnut is interested.

BIRMINGHAM, ALA.—The Birmingham Fertilizer Co. will rebuild plant which was destroyed by fire, at loss of $225,000.

HUNTSVILLE, ALA.—The Madison Spinning Mill will double capacity. Capital has been increased from $100,000 to $200,000.

MONROEVILLE, ALA.—A. J. Bryan & Co., Archs., New Orleans, La., write us that M. T. Lewman & Co., Louisville, Ky., received the court house contract. Also for erecting court house at Elba, Ala.

MERIDIAN, MISS.—The Memphis & Gulf Ry. Co. may erect shops at this place. K. Threefoot is Pres. Bd. Trade.

ANNISTON, TENN.—The American Net & Twine Co. contemplates increasing capacity of plant. H. Williamson is Local Mgr.

CHATTANOOGA, TENN.—The Herron & Brady Pump Works will erect a $75,000 plant.

GALLATIN, TENN.—A canning factory may be erected.

MEMPHIS, TENN.—The Memphis Furniture Co. will erect a $45,000 plant. General contract let to Pritchard Bros., and brick to Silk & Chambers.——The Fuller Cotton Gin Co. will erect a $750,000 factory, employing 1,000 hands and having capacity of 900 gins per year.

MEMPHIS, TENN.—The Wabash Baking Powder Co., Wabash, Ind., will erect a $60,000 plant.

BROMLEY, KY.—Local papers state that a $10,000,000 cement and pressed brick plant will be erected. Joseph Moser, Mayor, is interested.

LOUISVILLE, KY.—The Washburn-Crosby Co., Minneapolis, Minn., will erect a $100,000 flour mill of 1,000 bbls. capacity.

BARBERTON, O.—J. P. Green, Baltimore, expects to erect a plant to manufacture asbestos writing paper.

CANAL DOVER, O.—The Dover Forged Iron Co. will erect a plant. Construction will start soon.

CANTON, O.—Reports state that the Canton Standard Steel Car Works will enlarge plant. F. H. Griffin is interested.

IRONTON, O.—T. J. Gilbert, Mgr. Marting Iron & Steel Co., will erect a pressed brick plant.

LORAIN, O.—Reports state that the Lorain & Elyria Ice & Coal Co. will erect a plant for manufacturing artificial ice. E. A. Braun is interested.

STEUBENVILLE, O.—The Ohio Steel Erecting Co. will build a $100,000 plant. C. T. Lewis is interested.

TOLEDO, O.—It is said that the Vulcan Iron Works will erect six brick factory buildings.

WARREN, O.—It is stated that the Warren Sheet Metal Co. will erect a power house, 34 × 47 ft.; machine shop, 42 × 108 ft.; galvanizing department, 30 × 60 ft., and a warehouse, 46 × 108 ft.

INDIANA HARBOR, IND.—The Illinois Steel Co. has purchased a site in Lake county, east of here, and commenced the construction of a Portland cement plant, which will ultimately cost $3,000,000. Plans as they are now prepared call for an expenditure of $1,500,000. The site covers 33 acres. The capacity of the new plant, which will comprise a raw material building, 180 × 130 ft.; a burner building, 120 × 240 ft.; finishing mill, 70 × 240 ft., and two storage warehouses, each 120 × 350 ft., will be about 4,000 barrels of cement a day. In addition to these buildings a number of less important structures will be put up; cement and steel will be largely used in the construction. The plant will be completed by April 1, 1904, and will employ from 400 to 500 men.

SOUTH BEND, IND.—A large brewing plant will be erected. Address City Clerk.

DETROIT, MICH.—H. Sloman, Pres. Michigan Can Co., writes us that plant will be of brick, two stories, and 54 × 54 ft.

DETROIT, MICH.—Rogers & McFarlane will erect a factory for the Cadillac Automobile Co., on Cass Ave., for $50,000.

GRAND RAPIDS, MICH.—W. G. Robinson, Arch., Houseman Bldg., has plans for the Globe Knitting Works' 4-story brick factory.

SAULT STE. MARIE, MICH.—The American Paper Co. will erect pulp paper mills at cost of $1,250,000. Plans call for ground wood pulp mill, 100 tons capacity, sulphite mill and fiber mill of 125 tons capacity.

CHICAGO, ILL.—The Cosmopolitan Cold Storage Co.'s plant will be 11 stories, 177 × 297 ft., and cost about $1,000,000.

KANKAKEE, ILL.—The Safe Glass Works, Upland, Ind., will erect a plant.

MILWAUKEE, WIS.—Pawling & Harnischfeger Electric Crane Co.'s plant has been destroyed by fire, with loss of $160,000. Plant will be rebuilt.

RHINELANDER, WIS.—Work will soon start on new paper mill. W. E. Brown is interested.

FAIRFIELD, IA.—Bartlett & Kling, Galesburg, Ill., received contract for erecting four buildings at Parson's College, including plumbing and electric light wiring. H. K. Holsman, Chicago, Ill.

FORT SMITH, ARK.—Carnegie-Frick Structural Steel Works Co., Pittsburg, Pa., may erect plant. About 50 men would be employed.

AUSTIN, TEX.—The state will probably erect another sugar mill.——$55,000 may be appropriated for repairing state sugar mill on the Harlem convict farm. L. M. Openheimer is Chn. Bd. Penitentiary Comrs.

DALLAS, TEX.—Parlin & Orendorff's buggy plant has been destroyed by fire with loss of $130,000.

TAYLOR, TEX.—Houston capitalists may build cotton mill.

HOOD RIVER, ORE.—Reports state that Wm. Eccles has purchased the saw mill and will install new machinery.

PORTLAND, ORE.—Oil refineries will probably be built. E. B. McFarland.——The American Can Co. will erect factory at cost of $44,000.

SAN FRANCISCO, CAL.—H. Thode, Pres. Union Brewing & Malting Co., writes us that brewery will be 100 × 175 ft., and cost $125,000. The following contracts awarded: Butler & Sons, brick, iron and cement floors; Union Machine Co., machinery, and California Boiler Works, boilers. Martens & Coffey, Archs., 809 Market St.

PINOLE, CAL.—The California Powder Co. will erect plant at cost of $200,000.

MISCELLANEOUS CONTRACTS.

(For foreign miscellaneous contracts, see under "Foreign Contracts and Export News.")

FIRE APPLIANCES.—Moncton, N. B.—The city is to spend $4,500 for additional fire appliances.

STAMP MILL.—Rough and Ready, Cal.—Reports state that Ed. Lorgan, of the Ironclad, will soon erect a ten-stamp mill.

DITCH.—Lafayette, Ind.—Bids are asked until April 30 for constructing about 8,210 ft. of ditch. H. H. Cheney, County Auditor.

MINING MILL.—Grant's Pass, Ore.—The owners of the Kremer & Palmer mine are said to be considering installation of large mill.

ANTIMONY MINING.—Portland, Me.—G. H. Blake is said to be making preparations for working the antimony mine at Cape Elizabeth.

MINING WORK.—Rossland, B. C.—Reports state that $50,000 will be spent on the Cascade mine this season. A milling plant will be installed.

STONE.—Portland, Me.—The Bodwell Granite Co., Hallowell, Me., is to furnish the stone for constructing the light-house on Ram Island Ledge.

DOCK IMPROVEMENTS.—New Orleans, La.—It is reported that the Illinois Central will expend $750,000 in improving its docks in New Orleans.

MINE STAMPS.—Lewiston, Idaho.—Frank Brown is stated to be contemplating the putting in of ten more stamps for the Jumbo mine this summer.

BRICK.—San Francisco, Cal.—Daniel Nugent has secured a contract from E. T. Newhall, Supt. Summit quicksilver mine, for 500,000 brick for ovens.

DITCH.—Sioux City, Ia.—Martin Holmvig, County Surveyor, has recommended that the Hedges-Garretson ditch be improved at a cost of about $42,900.

PARK IMPROVEMENTS.—Oakland, Cal.—F. C. Turner, Cy. Engr., has submitted plans to the council for improving West Oakland Park at a cost of $40,000.

CONCENTRATOR PLANT.—Orient, Wash.—The Columbia River Gold Mining Co. will, it is said, install a 100-ton concentrator at the Cougar group of mines.

DREDGING.—Boston, Mass.—Bill is before legislature appropriating $25,000 for dredging Bass River channel in Beverly, and for widening draw of Bass River bridge.

REDUCTION PLANT.—Montpelier, Idaho.—Reports state that Idaho Globe Mining Co. is to install a reduction plant having capacity of 60 to 90 tons of ore per day.

MODEL TOWN.—California.—It is reported that Alfred Dolge, the founder of Dolgeville, N. Y., proposes to establish a model town on the same principle near Alhambra.

PARK IMPROVEMENT.—Pueblo, Colo.—It has been estimated that $175,000 will be required to carry out the park commissioners plans for contemplated improvements.

GRADE CROSSING ABOLISHMENT.—Schenectady, N. Y.—A bill is before the legislature carrying an appropriation of $250,000 for abolishing grade crossings in this city.

STAMP MILL.—Boise, Idaho.—Reports state that the Brant Gold Mining & Milling Co. expect to purchase a 20-stamp mill in June for their property at Thunder Mountain.

GRADE CROSSING ABOLISHMENT.—Albany, N. Y.—The Assembly has passed a bill for doing away with about 200 grade crossings in Brooklyn at a cost of about $8,000,000.

TRAM RAILROAD.—Cairo, Ill.—The Martinville Saw Mill Co. is said to be considering the building of a tram railroad from Cairo to the pine timber lands of Mount Pleasant.

CRANE SCOW.—Boston, Mass.—Bids opened March 28 for furnishing 30-ton crane scow at local navy yard have been rejected. The specifications will be revised and new bids called.

LOCK IRONS.—Wheeling, W. Va.—Bids are asked until May 21 for irons for lock for Dam No. 18, Ohio River, as stated in our advertising columns. Maj. Geo. A. Zinn, U. S. Engrs.

RICE ELEVATORS.—New Orleans, La.—It is reported that a company is being organized to build eight elevators in the rice belt. W. J. Clark, Salem, O., is said to be interested.

SMELTER.—Butte, Mont.—The Pittsburg & Montana Copper Co. is stated to have let a contract to Shackleton & Whiteway for constructing a smelter to cost several million dollars.

STONE DOCK.—New Rochelle, N. Y.—Bids are asked until May 5 for constructing stone dock in Hudson Park, as stated in our advertising columns. Chas. Kammermeyer, Cy. Clk.

ROCK EXCAVATION.—Boston, Mass.—Bids are asked until May 26 for rock excavation in Boston Harbor, as is stated in our advertising columns. Lt.-Col. W. S. Stanton, U. S. Engrs.

CASTINGS.—Washington, D. C.—Bids are asked by bureau engraving and printing until May 11 for furnishing during the fiscal year, brass and iron castings. Wm. M. Meredith, Dir.

CABLE.—Washington, D. C.—The contract for furnishing underground signal and telephone cables for 1904 will probably be let to the Chesapeake & Potomac Telephone Co. for $35,636.

WHARF.—Washington, D. C.—Bids for constructing wharf for new morgue were received April 15 as follows: Lyons Bros., Brookland, D. C., $4,193.50; Paravinni & Greer, Washington, $4,600.

TELEPHONE LINE.—Coleridge, N. C.—Reports state that the Enterprise Manufacturing Co. will receive bids for furnishing wire, insulators, pins and two instruments for an eight-mile telephone line.

PARK.—New York, N. Y.—Board of Aldermen have passed ordinance authorizing establishment of public park at 73d St., Fort Hamilton and 7th Avs. The park will cost, it is estimated, about $100,000.

PORTLAND CEMENT AND SAND.—New York, N. Y.—Bids are asked by the park board until April 30 for furnishing and delivering 500 bbls. Portland cement and 200 cu. yds. Cow Bay sand. Wm. R. Wilcox, Comr.

MINING MILL.—Sumpter, Ore.—It is stated that the management of the Oregon Mammoth mine would put in a mill this fall. It is also said that the Blue Bird Mining Co. is to install a mill plant within a few months.

CANAL.—Albany, N. Y.—Governor Odell has signed the $101,000,000 canal improvement bill, providing for the submission to the vote of the people of the plan for enlarging the Erie, Oswego and Champlain canals.

TRAVELING CRANE.—Washington, D. C.—Bids are asked by the director of the mint, Washington, until May 5, for a three-motor traveling crane in the U. S. Mint building at Denver; also for a 45-HP. motor generating set for same building, as is stated in our advertising columns.

FERRY TERMINAL IMPROVEMENT.—New York, N. Y.—The Board of Estimate has approved plans for laying out the approach to the St. George ferry terminal at Staten Island. The cost of the work will be about $300,000.

TELEPHONE EXTENSIONS.—Dallas, Tex.—It is stated that important extensions are to be made to the telephone lines recently acquired by the Southwestern Telegraph & Telephone Co., of which J. E. Farnsworth is Gen. Mgr.

ELECTRIC FANS.—New York, N. Y.—The Interborough Rapid Transit Co., Park Row Bldg., New York, is reported as having asked for estimates from various concerns for electric fans to be used in ventilating its subway.

WHARF WORK.—St. Louis, Mo.—The War Department has approved the bill providing that the channel up the Mississippi River in this harbor be narrowed and deepened. Joseph P. Whyte is local River and Harbor Comr.

DITCH.—Billings, Mont.—J. W. Clice, Chn. Chamber of Commerce, Seattle, Wash., is reported to be interested in a company which proposes to construct a $200,000 ditch here for the purpose of reclaiming 25,000 acres of land.

STREET SIGNS AND SIGN POSTS.—New York, N. Y.—Bids are asked by the Bronx Borough President until April 27 for furnishing, erecting and maintaining 4,600 street signs and 1,400 street sign posts. Louis F. Haffen, Pres.

DIVERTING CANAL.—Stockton, Cal.—Preliminary work is to be commenced soon on the proposed diverting channel, for which $225,000 has been appropriated by Congress. Frank D. Ryan, Sacramento, Cal., is Comr. Pub. Wks.

RIVER IMPROVEMENT.—Philadelphia, Pa.—Bids are asked until May 22 for removing rock and overlying and adjacent material at Schooner Ledge, Delaware River, as stated in our advertising columns. Lt. Col. C. W. Raymond, U. S. Engrs.

DITCH.—Logansport, Ind.—The Cass county commissioners have decided that contracts be let in Cass, Pulaski, Fulton and White counties for a large drainage ditch. The ditch is to cost $100,000 and will drain the four above mentioned counties.

MINE DEVELOPMENT.—Hartshorne, Ind. Ter.—We are informed that shaker screens, steel tipple, 150-KW. electrical power plant, etc., will be necessary for developing the mines of the Rock Island Coal Co. Carl Scholz, Pres., Little Rock, Ark.

DITCHES.—Council Bluffs, Ia.—It is stated that Harrison and Pottawattamie counties may issue bonds for the construction of a drainage ditch, the total cost of constructing which will be about $100,000. Col. W. F. Baker is a County Supervisor.

WHARF IMPROVEMENTS.—New York, N. Y.—The Jersey Central R. R. has turned over to the city the wharf and dock property at Cedar St., on the North River, and plans for improvements to cost about $1,000,000 are said to be already under way.

COMBINED MINING MILL.—Spokane, Wash.—C. M. Fassett, Spokane, is reported to be drawing plans for a combination amalgamation and cyanide mill, which will be built this spring for the Bodie Mining Co. on the north half of the Colville Indian reservation.

WHARF.—San Pedro, Cal.—The Southern Pacific R. R. Co. and the Southwestern Lumber Co., L. H. Blinn, Pres., have applied for leave to construct a wharf in San Pedro Harbor. It is also said the Salt Lake R. R. Co. proposes an addition to its wharf at East San Pedro.

RIVER IMPROVEMENT.—New York, N. Y.—The appropriation for removing the obstructions in the North River, near pier 1, is $25,000, and the lowest bid received was $38,000. The work consequently will probably not be done until a further appropriation is made.

MOVING PLATFORM.—New York, N. Y.—The Rapid Transit Commission is considering a proposition for connecting the New Williamsburgh Bridge with Bowling Green by a moving platform. The syndicate back of the project have offered to build the necessary subway.

DREDGING, ETC.—New York, N. Y.—Bids are asked by the Dock Commissioner, Pattery Pl., until May 5 for dredging in North River, between the Battery and W. 159th St.; also for furnishing and putting in place small cobble and riprap stone. McDougall Hawkes, Comr.

TRAMWAY.—Peck, Idaho.—Efforts are being made to have the Melrose farmer's tramway extended to half a mile south of Peck. If this is done M. C. McGrew and E. P. Atchison, of Kendrick, will construct the connecting tramway. This link tramway would cost about $12,000.

METERS, ENGINES, BOILERS, ETC.—Washington, D. C.—Bids are asked until May 22 for furnishing Venturi meters, sluice gates and gate valves, special castings, pumping engines, boilers, stokers and economizers, as stated in our advertising columns. Lt. Col. A. M. Miller, U. S. Engrs., 2728 Penn. Ave.

COAL AND COKE DEVELOPMENT.—Wheeling, W. Va.—A company headed by D. E. Conoway, Mannington, W. Va., have commenced the development of some 15,000 acres of coal land. Five miles south of Grafton 200 coke ovens are to be built and in the new mines to be opened on the Tygarts Valley River electrical machinery will be installed.

FERRY FACILITIES.—New York, N. Y.—Mayor Low has recommended that $950,000 be expended in bettering the ferry facilities for Staten Island. This provides for the city ownership of the terminals and the city will construct suitable stations, etc., at Stapleton and Port Richmond and will improve the terminals both at St. George and Whitehall St.

MINING WORK.—Salt Lake City, Utah.—The Liberty Mining Co., incorporated here with $1,000,000 capital, will proceed to develop its claims in the Park City district. The company intends to drive a tunnel and to crosscut at intervals. A large power plant will be erected and the energy used to facilitate the tunnel work. Thos. Kearns is Pres. and Harvey J. Jones is Secy.

CANALS.—St. John, N. B.—The New Brunswick legislature has been petitioned by Dr. A. R. Stockton and others for a renewal of the charter of the Courtenay Bay Bridge Co. Attached to the bill are provisions for development by means of canals. This new plan, besides providing for the construction of the bridge, also calls for the building of canals traversing St. Johns and joining the St. Johns River to the city.

ROCK CRUSHING PLANT.—Denver, Colo.—Plans and specifications for a 300-ton crushing plant for the Western Realty & Paving Co. have been completed by Bonnevie & Lee, Cons. Engrs. The machinery consists of one 11 × 26-in. Sturtevant steel crusher, one 6 × 16-in. crusher, same make; one Cont. bucket iron elevator, two 36-in. × 10-ft. revolving screens, one 16-ft. × 66-in. boiler, one 60-HP. engine, one 14 × 16 × 22-in. Rand drill air compressor.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

CONTRACT PRICES.

PAVING.—Brooklyn, N. Y.—The Borough President received the following lowest bids on April 1, 1903, for regulating and repaving the following streets in Brooklyn; the bidders, in addition to those given below were: J. Charles Weschler, 309 Broadway, New York; George & Farrell, Brooklyn; M. F. Hickey, Brooklyn; Haley & Keegan, 95 N. 9th St., Brooklyn; Interstate Paving Co., 44 Court St., Brooklyn; U. S. Wood Preserving Co., 29 Broadway, New York city; Eppinger & Russell Co., cor. Connecticut Ave., Long Island City; the low bids are as follows:

For Meserole St. (Granite on Concrete).

Quantities.		William Fitzgerald, 537 West 35th St., N. Y.
Granite block	7,690 sq. yds.	$2.69
Relay stone pavement	40 " "	.10
Concrete	1,620 cu. yds.	3.98
New curbing	6,770 lin. ft..	.80
Resetting old curb	350 " "	.10
Granite bridgestone	450 sq. ft...	.50
Relaying old bridgestone	170 " "	.05
Total		$32,822

Note.—No bid was entered for moving 9 basin heads.

Rockaway Ave. (Granite with Tar and Gravel Joints).

Quantities.		McDermott & Foxton, E N.Y. and Buffalo Aves.
Granite block	2,680 sq. yds.	$2.80
Relaying old stone pavement.	30 " "	.25
Concrete	570 cu. yds.	5.75
New curb	2,260 lin. ft..	.92
Resetting old curb	130 " "	.10
Granite bridgestone	530 sq. ft...	.85
Relaying old bridgestone	270 " "	.30
Total		$13,437

Prospect Ave. (Granite).

Quantities.		William Fitzgerald.
Granite, tar and gravel joints	14,960 sq. yds.	$2.75
Relaying old stone pavement.	20 " "	.10
Concrete	2,780 cu. yds.	3.98
New curbstone	1,800 lin. ft..	.85
Resetting old curb	4,390 " "	.25
Granite bridgestone	770 sq. ft...	.65
Relaying old bridgestone	200 " "	.10
Total		$55,354

Ralph Ave. (Granite).

Quantities.		Sterling Construction Co., New York.
Granite, tar and gravel joints	8,600 sq. yds.	$2.97
Relaying old stone pavement	100 " "	.30
Concrete	1,775 cu. yds.	5.25
New curbstone	6,320 lin. ft..	.90
Resetting old curbstone	390 " "	.30
New granite bridgestone	1,590 sq. ft...	.80
Relaying old bridgestone	600 " "	.10
Total		$41,046

Green St. (Granite).

Quantities.		William Fitzgerald.
Granite, tar and gravel joints	7,900 sq. yds.	$2.67
Relaying old stone pavement.	30 " "	.10
Concrete	1,565 cu. yds.	3.75
New curbstone	4,350 lin. ft..	.80
Resetting old curbstone	480 " "	.18
New granite bridgestone	330 sq. ft...	.70
Relaying old bridgestone	120 " "	.05
Total		$30,768

Kingsland Ave. (Medina Sandstone).

Quantities.		Jas. Quinn, 202 East 90th St., New York.
Sandstone, cement joints	15,430 sq. yds.	$2.74
Relaying old stone pavement.	90 " "	.10
Concrete	2,920 cu. yds.	4.85
New curbstone	5,770 lin. ft..	.98
Resetting old curbstone	960 " "	.25
Sandstone bridgestone	1,850 sq. ft...	.85
Relaying old bridgestone	570 " "	.25
Total		$64,059

Cook St. (Medina Sandstone).

Quantities.		John O'Grady, Brooklyn.
Sandstone, cement joints	12,820 sq. yds.	$2.85
Relaying old stone pavement	150 " "	.20
Concrete	2,490 cu. yds.	5.00
New curbstone	6,920 lin. ft..	.90
Resetting old curbstone	700 " "	.20
Sandstone bridgestone	1,730 sq. ft...	.85
Relaying old bridgestone	400 " "	.20
Total		$56,936

Degraw St. (Medina Sandstone).

Quantities.		D. Norton, 301 Douglass St., Brooklyn.
Sandstone, cement joints	7,630 sq. yds.	$2.90
Relaying stone pavement	80 " "	.30
Concrete	1,550 cu. yds.	5.50
New curbstone	5,350 lin. ft..	.88
Resetting old curbstone	110 " "	.30
Sandstone bridgestone	1,240 sq. ft...	.80
Relaying old bridgestone	370 " "	.20
Total		$36,483

26th St. (Asphalt Block).

Quantities.		Hastings Paving Co., 25 Broad St., New York.
Asphalt block pavement	4,720 sq. yds.	$1.66
Relaying adjacent pavement..	20 " "	.40
Concrete	740 cu. yds.	6.00
New curbstone	2,430 lin. ft..	.98
Resetting old curbstone	400 " "	.45
Manhole covers and heads	15 each...	15.00
Total		$15,070

Bushwick Ave. (Asphalt Block).

Quantities.		Continental Asphalt P'v'g Co., L. I. City.
Asphalt block pavement	5,750 sq. yds.	$1.69
Relaying adjacent pavement..	110 " "	.40
Concrete	900 cu. yds.	6.40
New curbstone	3,200 lin. ft..	.95
Resetting old curbstone	170 " "	.43
Manhole covers and heads	2 each...	15.00
Total		$18,665

Various Streets (Wood Block Pavement).

Quantities.		United States Wood-Preserv'g Co., New York.
3-in. wood block pavement	1,390 sq. yds.	$1.75
4-in. wood block pavement..	14,590 " "	2.20
Relaying old stone pavement	180 " "	.35
Concrete	2,600 cu. yds.	6.95
New curbstone	6,520 lin. ft..	.90
Resetting old curbstone	2,070 " "	.40
Manhole covers and heads	45 each...	20.00
Total		$60,260

SEWERAGE.—New Britain, Conn.—The following bids were received by the sewer commissioners on March 24 for constructing Sections 2, 3 and 4, of the sewerage system; as advertised in Engineering News: S. H. Stearns, Chn. Bd. Sewer Comrs.:

DREDGING.—Mobile, Ala.—Two bids were received here by the U. S. Engineer on April 9, 1903, for dredging in Biloxi Harbor, Miss., which were as follows: Geo. G. Barker, Wilmington, Del., 23 cts. per cu. yd.; Rittenhouse Moore, Mobile, 22 cts.

BIDS RECEIVED AT NEW BRITAIN, CONN., MARCH 24, 1903, FOR SECS. 2, 3 AND 4, OF SEWER SYSTEM.

For Section 2.

Bidder.	Tunnel, 1,048 lin. ft.	Manholes, 4 each.	Excavation. Earth, 1,556 cu. yds.	Excavation. Rock, 922 cu. yds.	Laying 24" pipe, 680 lin. ft.	Laying Brick work in tunnel a yd.	Laying 24" tile in tunnel a ft.	Total.
Hooker & Son, Rochester, N. Y.	$12.50	$30.00	$0.50	$2.00	$0.50	$10.00	$0.25	$16,182
Abbott-Gamble Co., New York	25.00	90.00	2.00	9.00	.70	10.00	1.50	38,446
Edward Tracy, Derby, Conn.	19.45	28.00	.90	4.00	1.00	11.00	.98	26 264
McGawley and Coughlin, Boston	26.00	83.00	1.60	8.00	.60	12 00	1.35	37,854
P. McGovern	28.50	100.00	2.00	10.00	.75	15.00	1.50	43,112
Eglee Bunting Co., Boston, Mass.	24.00	79.00	1.55	8.00	.60	9.00	1.25	35,664
Frank Pidgeon, Waterbury, Conn.	16.00	175.00	.60	3.50	2.00	18.00	1.50	22,989
C. E. Trumbull Co., Boston, Mass.	28.50	70.00	1.50	7.50	.50	10.00	2.00	39,737
D. F. O'Connell, Boston, Mass.	31.00	78.00	1.80	10.00	.70	12.00	1.50	45,297

For Section 3.

Bidder.	Laying pipe. 24-in. tile, 13,000 ft.	Laying pipe. 24-in. c.-i., 84 lin. ft.	Manholes. Brick, 8 each.	Manholes. Concrete. Double, 4 each.	Manholes. Concrete. Single, 18 each.	Laying culvert pipe. 24-in., 34 lin. ft.	Laying culvert pipe. 20-in., 78 lin. ft.	Laying culvert pipe. 15-in., 84 lin. ft.	Filling, 5,350 cu. yds.	Rock excavation, 40 cu. yds.	Laying 24-in. tile pipe, 1,500 ft.	Total.
H. B. Hooker & Son	$0.50	$1.00	$20.00	$40.00	$30.00	$0 50	$0.40	$0.35	$0.50	$2.00	$0.40	$11,040
Abbott-Gamble Co.	1.25	2.50	40.00	40.00	30.00	2.00	2.00	2.00	.75	7.00	1.25	24,099
Edward Tracy	1.00	2.00	8.00	19.00	14.00	.30	.30	.25	.29	4.00	.82	16,584
McGawley and Coughlan	1.12	2.20	33.00	35.00	24.00	1.90	1.75	1.75	.63	7.00	1.15	21,352
Eglee Bunting Co.	1.00	2.00	30 00	30.00	20.00	1.75	1.50	1.50	.55	6.00	1.00	18,913
Frank Pidgeon	1.48	.80	75.00	150 00	75.00	1.48	1.40	1.40	.35	3.50	1.40	26,437
C. E. Turnbull Co.	1.13	1.00	15.00	25.00	15.00	1.00	1.00	1.00	.55	8.00	1.00	20,253
D. F. O'Connell	1.25	2.30	35.00	35 00	25.00	1.90	1.60	1.60	.63	8.00	1.20	23,178
C. B. & F. A. Cadwell, N. Britain	.865	1.00	8.00	40.00	20.00	.25	.25	.25	.30	5.00	.75	14,932

For Section 4.

Bidder.	24-in. tile sewer, 8,300 lin. ft.	24-in. cast-iron pipe, 702 lin. ft.	Manholes. Brick, 6 each.	Manholes. Concrete, 13 each.	Culvert pipe. 24-in., 56 lin. ft.	Culvert pipe. 20-in., 162 lin. ft.	Culvert pipe. 15-in., 16 lin. ft.	Culvert pipe. 12-in., 120 lin. ft.	Filling, 9,000 cu. yds.	Rock excavation, 1,100 cu. yds.	Total.
H. B. Hooker & Son	$0.50	$1.00	$20.00	$30.00	$0.50	$0.40	$0.35	$0.35	$0.50	$2 00	$12,342
Abbott-Gamble Co.	1.25	2.50	30.00	30.00	2.50	2.00	2.00	2.00	.75	5.00	25,896
Edward Tracy	1.08	2.00	8.00	14.00	.35	.35	.35	.35	.29	3.00	16,693
McGawley & Coughlin	1.15	2.30	25.00	25 00	2.50	1.70	1.70	1.70	.60	5 50	23,958
Eglee Bunting Co.	1.10	2.10	25 00	25.00	2.00	1.50	1.50	1.50	.65	5.00	22,715
Frank Pidgeon	1.48	1.40	75.00	75.00	1.40	2.00	1.40	1.40	.35	3 50	22 810
D. J. O'Connell	1.30	2.25	35.00	35.00	2.15	1.70	1.60	1.70	.65	5.50	25,705
C. B. & F. A. Cadwell	.98	2.50	8.00	20.00	.25	.25	.25	.20	.35	2.00	14,282
John F. Magee & Co.	1.20	1.20	15.00	27.00	.50	.50	.50	.50	.50	4.00	20,425

GATE VALVES.—Cleveland, O.—The following bids were received by the director of public works on April 2, 1903, for supplying gate valves, as advertised in Engineering News: (1) The Darling Pump & Mfg. Co., Williamsport, Pa.; (2) Cayuta Wheel & Foundry Co.; Sayre, Pa.; (3) Rensselaer Mfg. Co., Troy, N. Y.:

		1.	2.	3.
6-in. valves	200 each.	$10 20	$10 50	$11.50
8-in. "	70 "	17 00	17.25	17.15
10-in. "	20 "	23.20	23.50	24.45
12-in. "	20 "	29.90	31.50	32.25
Total		$4,292	$4,408	$4,635

REPAVING.—Staten Island, N. Y.—The Borough President, St. George, New Brighton, New York city, received the following bids on April 3, 1903, for repaving Bay St., Hannah St. to Union Place with granite blocks: (1) bid John E. Donovan, Newark Ave., P. R., S. I.; (2) M. Fitzgerald, Staten Island; (3) Jos. Johnson Sons, Broadway, S. I.:

		1.	2.	3.
Granite blk pavement	9,800 sq. yds.	$3.21	$3.09	$3.00
20-in. curb	3,100 lin. ft..	1.00	.95	.95
Bridgestone	2,800 sq. ft...	.70	.55	.65
New flagstone	25 " "	.50	.30	.30
Relaying flagstone	100 " "	.20	.05	.05
Concrete	1,800 cu. yds.	5.00	4.00	5.25
Brick work	3 " "	18 00	7.00	15.00
Catchbasins, complete*	3 each...	150.00	140 00	150.00
New drip stone		15.00	7.00	10.00
Total		$46,070	$42,428	$44,233

The bids for Bay St., Thompson St. to Clifton Railway crossing (with asphalt block) were made by (1) Continental Asp. Pav. Co., Division and Vernon Ave., L. I. City; (2) Hastings Pavement Co., 25 Broad St., New York City:

		1.	2.
Asphalt block pavement	9,900 sq. yds.	$1.79	$1.75
20-in. curbstone	4,000 lin. ft..	1.10	1.05
Concrete	1,300 cu. yds.	6 50	6.32
New flagstone	50 sq. ft...	.23	.25
Brick work	3 cu. yds.	15.00	14.00
Catchbasins, complete*	2 each...	175.00	160.00
Iron gratings	25 sq. ft...	1.00	1.34
Relaying 12" copingstone.	25 lin. ft..	.15	.40
Total		$31,006	$30,159

*With connections.

CEMENT AND BROKEN STONE.—New York, N. Y.—Bids were received as follows by Maj. C. L. Marshall, U. S. Engrs., on April 6 for supplying cement and broken stone at Fort Wadsworth, N. Y.; as advertised in Engineering News; trap rock, 3,000 cu. yds., Clinton Point Stone Co., 170 Broadway, $1.10 per cu. yd.; Jacob E. Conklin, 135 Scott St., 89 cts.; the cement bids were for 5,000 barrels in barrels or bags, price is net for bags: Hiram Snyder & Co., 229 Broadway, $2.24 for barrels and $1.99 for bags; John P. Kane Co., 287 Fourth Ave., $2.15 and $1.89; Fredenburg & Lounsbury, 1 Madison Ave., $2.30 and $2 01; Vulcanite Portland Cement Co., 23d St. and Broadway, $2.30 and $2.00; Atlas Portland Cement Co., 30 Broad St., $2.16 and $1.87, respectively.

BREAKWATER EXTENSION.—Petoskey, Mich.—Maj. J. G. Warren, U. S. Engrs., Grand Rapids, received the following bids on April 11 for constructing the extension of the West Breakwater: (1) Nelson J. Gavlord, Livingston, Mich.; (2) T. J. Bennett & Co., Muskegon, Mich.:

		1.	2.
Removing north breakwater cribs and their stone filling and replacing same in west breakwater		$8,000	$9,000
Removing foundation and rip-rap stone of north breakwater and replacing same in west breakwater	990 cords	10.50	10.50
White oak timber	1,296 ft.B.M.	50.50	60.00
Other timber	77,533 "	38.00	34.00
Timber for deck	39,510 "	32.50	32.00
Hemlock or Norway pine	146,856 "	26.00	25.00
Drift bolts	26,373 lbs.	.04	.035
Screw bolts	1,009 "	.04	.035
Spikes	3,600 "	.05	.035
Stone	533 cords	6.50	8.90
Approximate total		31,248	$32,873

SEWERS.—Corry, Pa.—N. R. Dickson, Cy. Engr., writes us that the contract for building 1,700 ft. of 36-in. tile pipe sewer and 240 ft. of 36-in. c.-i. pipe sewer, with cement joints, etc., was awarded to Frederick Robinson, Meadville, at $4.65 and $7.50 per lin. ft., respectively. Bids were called on three different kinds of joints, and Mr. Robinson's other figures include the following: 1,700 ft. 36-in. sewer, $4.53 per lin. ft.; 240 ft. 36-in. c.-i. pipe sewer, lead joints, $8; 20 ft. 6-in. sewer, 45 cts.; two 36 x 15-in. Y's, $16 each; 20 36 x 6 Y's, $10; four manholes, $35 each; 80 ft. timber piles, 60 cts. per ft.; 80 ft. railway track, $1.75; 100 cu. yds. concrete, $4 per cu. yd.; 1,000 ft. white oak for $30, etc. Thos. McGuigan, Meadville; John H. Welteroth, Williamsport, Pa., and Geo. W. Moore & Smith, Buffalo, N. Y., also bid.

PAVING.—Minneapolis, Minn.—The council committee on paving awarded contracts on March 25 for the season's work as follows: Purrington Paving Brick Co., pressed brick, at 99.8 cts. per sq. yd. any amount; Arnold Granite Paving Co., 8,000 sq. yds. of granite paving blocks at

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

$1.85; Kettle River Quarries Co., 60,000 sq. yds. Kettle River sandstone paving blocks at $1.58; George J. Backus, any amount of white cedar paving blocks at 60 cts. a sq. yd.; Republic Chemical & Creosoting Co., 40,000 sq. yds. creosoted wood paving blocks at $1.64.

LAYING WATER PIPE.—Boston, Mass.—The following bids were received by the Metropolitan Water and Sewerage Board on April 9 for laying water pipe, as was advertised in Engineering News, and contract awarded D. F. O'Connell:

DREDGING.—Portland, Me.—Maj. S. W. Roessler, U. S. Engr., received the following bids April 14, 1903, for dredging in Camden Harbor: Robert Hamilton, Chebeague, Me., and Smith D. Sawyer, Yarmouthville, Me., in conjunction, 26,000 cu. yds. dredging, 26¼ cts. per cu. yds.; removing boulders, over 5 tons, $10 a ton.

PAVING MATERIALS.—Minneapolis, Minn.—The following bids were received April 10, 1903, for paving materials: 10,000 sq. yds. granite blocks, Wisconsin Consolidated Granite Co., Chicago, common $1.90 per sq. yd., & Connor, $8,630; Coleman Bros., Everett, Mass., $8,958; Chas. N. Taylor, Wellesley, $9,046; Frank W. McCusker, Waltham, $9,140; John Cashman, $9,251; Chas. Sweetmott, Falmouth, $9,278; Michael Russo, Boston, $9,756; Hillpot & Oliver, New Brunswick, N. J., $9,795; T. H. Gill & Co., Somerville, $9,967; Edw. B. Roberts, Swampscott, $10,295; Wm. H. Ellis, Boston, $10,420; Wm. J. McCarty, Somerville, $11,102; John F. McGee & Co., Taunton, Mass., $11,185; Hugh F. McGee, Taunton, $11,204; John A. Rooney, Boston, $11,356.

Bids Received at Boston, Mass., April 9, 1903, for Laying Water Pipe.

Quantities.	D. F. O'Connell, Dorchester, Mass.	C. E. Trumbull Co., Boston.	Coleman Bros., Everett, Mass.	T. Stuart & Son Co., Newton, Mass.	Bruno & Milano, Boston.	Eglee-Bunting Co., Boston.	H. A. Hanscom Co., Boston.	John T. Cavanagh, Boston.	George M. Bryne, Boston.	E. W. Everson & Co., S. Boston.	Hillpot & Oliver, New Brunswick N. J.
Laying 48-in. cast-iron pipe .....9,900 lin. ft..	$2.25	$2.45	$2.45	$2.48	$2.65	$2.69	$2.75	$2.89	$2.85	$3.00	$3.53
" 36-in. and 20-in. c.-i. pipe 15 " "	2.25	2.45	2.45	1.75	2.00	2.00	2.00	2.00	2.85	2.00	2.50
" 12-in. c.-i. pipe blowoffs. 90 " "	1.00	1.50	.90	1.15	1.00	1.00	1.00	1.50	2.00	1.00	.80
Rock excavation, above grade .... 400 cu. yds.	3.50	3.50	3.00	4.00	3.00	4.00	4.50	4.00	3.00	4.00	3.00
Rock " below grade. .. 10 " "	5.00	6.00	6.00	5.00	3.50	7.00	5.00	4.00	5.00	6.00	4.00
Earth " below grade... 20 " "	1.25	1.00	2.00	1.00	1.00	2.50	2.00	2.00	.75	1.00	1.25
Setting air valves ..... 10 each...	10.00	5.00	10.00	5.00	3.00	3.00	3.00	5.00	5.00	10.00	6.00
Chambers for 36-in. valves ..... 2 " ...	70.00	60.00	80.00	125.00	70.00	75.00	65.00	15.00	75.00	75.00	250.00
Blowoffs, by-passes & air valves 18 " ...	50.00	45.00	60.00	100.00	40.00	50.00	35.00	12.00	50.00	50.00	70.00
Concrete masonry ..... 100 cu. yds.	5.00	7.00	6.00	8.00	8.00	6.50	7.00	7.00	8.00	6.00	8.50
Total	$25,514	$27,587	$27,613	$29,252	$29,300	$30,201	$30,725	$31,452	$31,603	$33,250	$38,991

SIGNAL AND TELEPHONE CABLE.—Washington, D. C.—Walter C. Allen, District Elec. Engr., District Bldg., informs us that the following bids were received April 4, 1903, for furnishing signal and telephone cables (advertised in Engineering News); contract awarded Chesapeake & Potomac Telephone Co.:

dressed top, $2.35; 10,000 lin. ft. artificial curb and gutter, using sand or crushed granite, Columbus Stone Co., sand 40½ cts. a lin. ft.; Minneapolis Sidewalk & Paving Co., sand 35½ cts.; Plymouth & Hennepin Paving Co., sand, 41½ cts., granite 62½ cts.; City Paving Co., sand 38½ cts.

Bids Received at Washington, D. C., April 4, 1903, for Furnishing Signal and Telephone Cables.

No. and Size of Wire.	Chesapeake & Potomac Tel. Co., Washington, D. C.	Standard Underground Cable Co., Pittsburg, Pa.	John A. Roeblings Sons Co., Trenton, N. J.
4 pairs No. 19 B. & S., and 4 pairs No. 14 B. & S..... 26,000 lin. ft..	$0.145	$0.158	$0.17
5 " " 19 " " 5 " " 14 " ..... 12,000 " "	.163	.18	.20
6 " " 19 " " 6 " " 14 " ..... 5,000 " "	.182	.20	.22
8 " " 19 " " 6 " " 14 " ..... 4,850 " "	.19	.213	.23
10 " " 19 " " 5 " " 14 " ..... 10,000 " "	.22	.214	.234
10 " " 19 " " 8 " " 14 " ..... 6,600 " "	.261	.269	.29
10 " " 19 " " 10 " " 14 " ..... 14,000 " "	.281	.291	.32
15 " " 19 " " 10 " " 14 " ..... 3,000 " "	.308	.317	.34
15 " " 19 " " 15 " " 14 " ..... 845 " "	.368	.373	.40
15 " " 19 " " 17 " " 14 " ..... 3,300 " "	.397	.40	.44
25 " " 19 " " 10 " " 14 " ..... 3,500 " "	.352	.375	.404
20 " " 19 " " 15 " " 14 " ..... 15,000 " "	.386	.405	.44
25 " " 19 " " 15 " " 14 " ..... 3,000 " "	.413	.402	.465
25 " " 19 " " 20 " " 14 " ..... 2,000 " "	.469	.451	.50
30 " " 19 " " 15 " " 14 " ..... 2,400 " "	.433	.425	.4675
25 " " 19 " " 25 " " 14 " ..... 1,100 " "	.521	.507	.55
30 " " 19 " " 30 " " 14 " ..... 2,500 " "	.592	.573	.62
50 " " 19 " " 15 " " 14 " ..... 2,500 " "	.569	.511	.5625
40 " " 19 " " 30 " " 14 " ..... 1,400 " "	.628	.614	.68
50 " " 19 " " 30 " " 14 " ..... 3,000 " "	.667	.655	.72
70 " " 19 " " 45 " " 14 " ..... 1,400 " "	.888	.86	.93
Total	$35,636	$36,688	$40,086

DYNAMITE.—Fall River, Mass.—The highway department received bids on dynamite in 50-lb. boxes on April 3. The lowest bidders were Congdon & Carpenter at 22 cts.; the others all bid 25 cts. on 60%; all were rejected.

PIPES, VALVES, ETC.—Richmond, Va.—E. E. Davis, Asst. Supt., writes that contracts were let as follows from the bids received April 6 for furnishing pipe, valves, etc.; all bidders local: Southern Ry. Supply Co., Ninth and Cary Sts., 20 fire hydrants, $21.50 each; 6 24-in. valves, $150.50 each; 2 20-in., $93.10; 9 16-in., 8 12-in., $27.45; 10 10-in., $20.90; 20 8-in., $15.33; 30 6-in., $9.34; pig lead, $4.87 per lb.; Hunter B. Frischkorn, 812 E. Cary St., special castings, 2¾ cts.; pipe, 24-in., $28.05; 20 and 16-in., $28.25; 12 and 10-in., $28.50; 8-in., $28.75; 6-in., $29; 4-in., $29.75; G. & A. Bargamin, 14 South Ninth St., wiping solder, 14½ cts.; brass work, $417.50. The other bidders were: W. E. Grant, Morgan R. Mills & Co., Inc., 28 North Ninth St.; J. A. Waters & Co., 119 South Eighth St.; McGhee & Pollard, 2312 E. Main St.; Smith-Courtney Co., 1420 E. Cary St.; V. S. Goodwin, 10 S. Harvey St.; Maynard & Perkins; Maynard & Ford, 515 North Eighth St.; A. Q. Billings and B. R. Selden.

DREDGING.—Buffalo, N. Y.—The commissioner of Public Works has awarded the contract for deepening, widening and dredging the Buffalo River, the City Ship Canal and Peck Slip, at about 29½ cts. a cu. yd.

BRICK PAVING.—Williamsport, Pa.—James F. Fisher, Cy. Engr., received the following bids April 16 for about 14,500 sq. yds. of brick paving on concrete foundation; (1) Guise block, (2) Mack, (3) 4-in. curb, (4) reset curb, (5) 4-in. circular curb: Coryell Construction Co., Williamsport (awarded contract), (1) $1.94, (3) 60 cts., (4) 20 cts., (5) $1.30; The Welteroth Co., Williamsport, (1) $2.01, (3) 70 cts., (4) 30 cts., (5) $1.50; J. U. Fritchey & Son, Lancaster, (2) $2.15, (3) 60 cts., (4) 25 cts., (5) $1.50.

PORTLAND CEMENT.—Marquette, Mich.—For furnishing 6,000 bbls. of Portland cement Capt. D. D. Gaillard, U. S. Engrs., received the following bids on April 11 (advertised in Engineering News): F. B. Spear & Sons, Marquette, per bbl., $2.76; in sacks, $2.86; Alpena Portland Cement Co., Alpena, $2.30; $2.40.

PUMPING ENGINE, FOUNDATIONS, ETC.—Allentown, Pa.—Jacob S. Reninger, Secy. Water Comrs., received the following bids on March 24 for pumping engine, foundations, etc., as advertised in Engineering News; all bids include foundations complete; H. R. Worthington's first bid does not include piping;

LAYING WATER PIPE, ETC.—Enfield, N. H.—Everett B. Huse, Ch. Bd. Water Comrs., informs us that the following bids were received April 15 in response to advertisement in Engineering News (only) for laying water pipe, special castings, etc., in Enfield; contract awarded Eglee-Bunting Co.; Coffin Valve Co., Boston, furnishes gate valves, boxes and Walker hydrants; and Chas. Millar & Son Co., Utica, N. Y., furnish pipe:

Bids Received at Enfield, N. H., April 15, 1903, for Laying Water Pipe, Castings, Etc.

Quantities.	14-in., 48 ft.	12-in., 3,100 ft.	10-in., 4,800 ft.	8-in., 2,800 ft.	6-in., 10,000 ft.	4-in., 4,300 ft.	Rock excavation, 200 yds.	Masonry per cu. yd. Stone.	Brick.	Concrete.	Total.
Geo. E. Foster, Lisbon Falls, Me.....	$0.45	$0.43	$0.41	$0.38	$0.35	$0.30	$5.37	$4.87	$12.50	$6.87	$10,117
John A. Rooney, 95 Milk St., Boston.....	.29	.39	.34	.34	.29	.27	3.00	.....	.....	.....	8,451
E. B. Roberts, Swampscott, Mass.....	.45	.40	.32	.30	.27	.20	5.00	3.50	17.00	7.00	8,174
J. F. Magee & Co., 276 Washgtn St., Taunton	.63	.35	.31	.27	.23	.20	6.00	7.50	10.00	9.00	7,689
W. J. McCarthy, 27 Bonair St., Somerville..	.40	.33	.34	.28	.30	.26	4.00	4.00	11.00	7.00	8,035
H. W. Warner, Florence, Mass.....	.40	.38	.36	.32	.32	.32	5.00	6.00	12.00	8.00	7,662
C. N. Taylor, 6 Abbott St., Wellesley, Mass.	.35	.30	.27	.26	.25	.22	4.00	8.00	16.00	9.00	7,010
Eglee-Bunting Co., 120 Milk St., Boston....	.39	.32	.27	.23	.195	.19	4.00	6.00	14.00	6.00	6,509

RIPRAP STONE.—Washington, D. C.—Lieut.-Col. Chas. J. Allen, U. S. Engrs., received the following bids on April 14, 1903, for furnishing in place riprap stone in dikes in Occoquan Creek, Virginia (advertised in Engineering News): H. P. Gilbert, 1062 32d St., Washington, $1.25 per cu. yd.; Thomas H. Lyons, Brookland, D.C., $1.78; Chas. J. Smith & Sons, 3218 K St., Washington, $1.56.

PIPE LAYING.—Falmouth, Mass.—L. E. Hawes, Civil and Hydraulic Engr., 1114 Paddock Bldg., Boston, informs us that the following bids were received April 10 for pipe laying at the Falmouth water-works: Itemized bids of Bruno & Milano, 293 North St., Boston (awarded contract)—Laying 1,968 lin. ft. 12-in. c.-i. pipe, 33 cts. per lin. ft.; 16,300 ft. 10-in., 25 cts.; 3,265 ft. 8-in., 22 cts.; 5,040 ft. 6-in., 20 cts.; 2,404 ft. 4-in., 19 cts.; setting 3 12-in. gates with boxes, $1.50; 8 10-in., $1.25; 2 8-in., $1; 18 6-in., 75 cts.; 5 4-in., 75 cts.; setting 18 hydrants, $1.50; 200 cu. yds. rock excavation, $3 per cu. yd.; 50 cu. yds. earth excavation, 50 cts.; laying 140 lin. ft. 6-in. pipe under tide water, $1; total, $7,733. Totals of other bidders as follows: Englee Bunting Co., Boston, $8,089; Osgood Construction Co., Nashua, N. H., $8,279; Thomas

Kaloahine to Paunhuhu, $45,000.——The following bids were received by the superintendent of public works for the new Queen St. wharf: John Cuderkirk, $33,333; Hawaiina Engineering & Construction Co., $34,542; Cotton Bros., $34,465; J. A. Hughes, $38,700; Enterprise Mill Co., $39,500; Whitehouse & Hawkhurst, $40,770; City Mill Co., $49,960.

U. S. POSSESSIONS AND CUBA.

BARRACKS, SITKA, ALASKA.—Bids are asked until June 8 for constructing one officers' quarters at marine barracks, Sitka. Col. F. L. Denny, Q. M., U. S. M. C.

RAILWAY.—Alaska.—Reports from Juneau state that Alfred B. Ilos has made a proposition to build a railway from Valdez to summit of Thompson Pass, at cost of $475,000, provided the city donates $50,000. Distance, about 20 miles.

BUILDINGS.—Manila, P. I.—Following bids were received for constructing new army post at San Pedro Maracati: T. N. Hasim, $50,000; A. M. Jones, $99,000; Cadwallider & Co., $83,000; G. Tanco, $74,000; Hu Sun, $52,000; D. W. Smith, $84,000; C. N. Paulson, $105,000.

ROAD.—Honolulu, H. I.—Bids will be received by Henry L. Cooper, Supt. Pub. Wks., until April 30, for constructing a portion of the "Pahala to Volcano House Road."——Mr. Cooper hopes to have an appropriation authorized him by the legislature to build a storage reservoir at the head of the Nuuanu Valley, with a capacity of 340,000,000 gallons.

BRIDGE.—Honolulu, H. I.—Bids are asked until May 4 for constructing a steel highway bridge and abutments over the Kalihiwai River, Kauai. Henry E. Cooper, Supt. Pub. Wks.——The bids for the Waimea bridge, received by Supt. Cooper, were submitted by Healy, Tibbetts & Co., San Francisco.; Cotton Bros. & Co., Honolulu, and Whitehouse & Hawhurst, Hilo, and range from $22,000 to $30,000.

ROAD IMPROVEMENTS.—Porto Rico.—Governor Hunt has allotted from the revenue funds on importation for road improvements amounting to $102,000, which will be expended as follows: Mayaguez-Cabo Rojo, $12,000; San German-Lajas, $5,000; Caguas-San Lorenso, $13,000; Albonito-Barranquitas, $15,000; Mayaguez-Consumo (repairs), $15,000; Las Marias (construction), $30,000; Arroyo-Patillas, $10,000. The Las Marias road is already well under way.

PUBLIC IMPROVEMENTS.—Honolulu, H. I.—The committee on public lands and improvements has reported favorably on the construction of the road from the Kinau wharf, Hilo, to the Waikakea lands, extending School St. to Kamehameha IV. road, $51,000, and road from Pali

MEXICO.

RAILWAYS.

(A correspondent informs us as follows regarding new railway construction in Mexico:)

VANEGRAS.—The gage of the Vanegras, Cedral & Matehuala R. R., which was acquired about a year ago by the Mexican National, is to be changed to standard width.

HERMOSILLO.—G. Freeman, of this place, in the interest of American parties, has obtained a concession from the Government for a railroad from Alamos, state of Sonora, to the port of Ybaros. The concession also carries with it the right to construct two branch lines.

Bids Received at Allentown, Pa., March 24, 1903, for Pumping Engines, Foundations, Etc.

Bidder.	Style of pump.	Size of cylinders. Steam H.-P.	Steam Intermediate.	L. P.	Water.	Length of stroke.	Revolutions per minute.	Steam pressure, lbs.	Duty in ft.-lbs. per 1,000 lbs. of steam, galls.	Coal required per day full capacity. tons.	Total.
Holly Mfg. Co., Lockport, N. Y.	Triple exp. crank & flywheel	15½"	24"	42"	23"	36"	28½	145	145,000,000	5.94	$40 900
	Triple exp. crank & flywheel	15½"	24"	42"	23"	36"	28½	120	135,000,000	6.34	40 900
	Compound crank and flywheel	18"	..	42"	23"	36"	28½	145	138,000,000	6.20	34,500
	Compound crank and flywheel	18"	..	42"	23"	36"	28½	120	130,000,000	6.57	34,500
Snow Pump Co., Buffalo, N. Y.	Hor. cross-comp. crnk, flywhl	25"	..	54"	18"	36"	36½	120	136,000,000	6.48	28,995
Henry R. Worthington, 114 Liberty St., New York	Horizontal triple expansion...	19"	30"	50"	25"	36"	23	100	100,000,000	8.55	25 975
	Horizontal compound	25"	..	50"	25"	36"	23	100	115,000,000	7.45	33,125
Barr Pumping Engine Co., Philadelphia, Pa.	Vert. tripl-exp. crnk & flywhl	22"	36"	50"	24½"	36"	33½	120	160,000,000	5.34	60 000
	Vert. crs-comp. crnk & flywhl	28"	..	50"	21-29¾	36"	33½	120	130,000,000	6.57	50,000
D'Auria-Allentown Rolling Mills, Allentown, Pa.	Horizontal compound	14"	..	36"	17½"	24"	72	120	115,000,000	7.45	23,200

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

GUADALAJARA.—Dwight Furness, of the City of Mexico, has obtained a concession from the Mexican Government for a road from Ocotlan, on the Mex. Central, to Jamay.

TAPACHULA, STATE OF CHIAPAS.—The governor of this state is organizing a company of local capitalists to build a line of railroad from this city to the port of San Benito.

SALTILLO.—The contract for building the branch road of the Coahuila & Zacatecas R. R. from Avales to San Luis de Ocampo has been let to J. D. Melville. Work will commence at once.

NAICA, STATE OF CHIHUAHUA.—The Compania Minera de Naica, of this place, will build a narrow gage road from a point on the Mexican Central to its mines here, to be 27 kilometers long.

INDE, STATE OF CHIHUAHUA.—The Descubridora Mining Co., of which David Gough is Pres., is back of a project to build a railroad between this place and the company's mines, a distance of about 45 miles.

VICTORIA.—Aurelio Gonzalez, of this place, and Jesus Guillon, Jr., of Jicotencatl, state of Tamaulipas, have obtained a concession from the Mexican Government to build and operate a narrow gage road from Huisache to Jicotencatl.

GUAYMAS.—The Mexican Anthracite Coal Mining Co. has obtained a concession from the Mexican Government for constructing a line of railroad between Cananea and some point on the Sonora R. R. The general offices of the company will be located here.

MONTEREY.—Authoritative announcement is made here that the Monterey Iron & Steel Co. will immediately construct a standard gage road from Nueva Laredo up the Rio Grande to the extensive coal fields which it recently acquired, about 40 kilometers distance.

PARRAL.—The Parral & Durango R. R. is being extended towards Guadulupe y Calvo. It is now completed to La Mesa de Sandia, a distance of 79 kilometers from Parral. The company will also erect a large sawmill at Sandia. Jas. I. Long is Gen. Mgr., Parral.

CHIHUAHUA.—David Shaw has obtained the contract for grading 30 miles of the Kansas City, Mexico & Orient R. R. west from Minaca, state of Chihuahua. The contract for grading the second section of 30 miles east from this city has been let to G. Webb, of Parral.

CORDOBA.—The construction of an electric road from Cordoba to Tierra Blanca, both on the Vera Cruz & Pacific R. R., is being promoted. The power plant will be erected on the Rio Blanca by a Mexican company, of which F. P. Hoeck, of F. P. Hoeck & Co., Mexico City, is the head.

MORELIA.—The government has amended the concession held by Albert J. Peyton for building a railroad from this city to Tacambaro, allowing him to finish the construction of the first 30 kilometers of road by May 24, 1904, and in each successive year at least 30 kilometers, so as to finish the main line between the points named by May 24, 1909.

GUAYMAS.—The Southern Pacific Company is making vast improvements at this port, the terminal of the Sonora R. R., its branch line. These improvements will consist of new wharves, warehouses, etc., costing about $2,000,000. The improvements are being made under the direction of J. A. Naugle. The Southern Pacific Co. is also preparing to develop the newly discovered oil field near San Marcial, state of Sonora.

SAN JUAN BAUTISTA, STATE OF TABASCO.—It is announced that Salt Lake City, Utah, parties are interested in the project of building the Rio Seco R. R. A party of those who are promoting the enterprise recently made a trip over the route accompanied by civil engineers and Benjamin Barria, who obtained the concession for building the line from the government. It is stated that it is proposed to establish several Mormon colonies along the route.

CITY OF MEXICO.—J. M. Neelands, Gen. Mgr. of the Pan-American R. R., states that nearly 150 kilometers of that line have been graded and that 70 miles are in operation. This road is being constructed from a point on the National Tehuantepec R. R. to the Guatemala border.——The Government has granted a concession to Andrew MacKenzie to build and operate a system of railways in the state of Vera Cruz. The main line is to run from Los Xuchiles to San Juan de la Punta, and a branch line will be built from Tierra Blanca to Vera Cruz. The concession stipulates that the survey must begin within six months and 5 kilometers be completed within 18 months.——The Mexican Central R. R. has six engineering parties in the field locating the route of the proposed extension of its Hidalgo line to the port of Tampico. The construction work will commence as soon as the route is located. Lewis Kingman is Ch. Engr.

MONTEREY.—Preparations are being made for the immediate construction by the Mexican National R. R. of its branch line from Monterey to San Miguel, a distance of 132 miles. Connection will be made at San Miguel with the isolated line which runs from that place to Matamoras, a distance of 70 miles. This latter line will be rebuilt and the gage widened to standard. New ties have been distributed along its entire length preparatory to this work. There will be considerable heavy bridging work on the Monterey-San Miguel line. It is reported that the Mexican National will also extend its Matamoros line to Corpus Christi, Tex., crossing the Rio Grande at Brownsville. The distance between Brownsville and Corpus Christi is about 160 miles by the proposed route, which is now being surveyed. The company will also build from Rincon to Guanajuato. The survey has been completed. R. T. Macdonald is Ch. Engr.; Jas. M. Reid is Ch. Engr. Construct., Mexico City.

MISCELLANEOUS.

(A correspondent sends us the following information:)

TORREON.—Mackin & Dillon have secured the contract for erecting a new market house here costing $110,000.

PUEBLA.—The Catholic Society of this city is to erect building for use of organization and also a theatre building.

VILLA ALDAMA, STATE OF CHIHUAHUA.—Concession granted by government to Manuel Priete for erection of a starch factory.

AGUASCALIENTES.—Municipal authorities will erect two new schools.——Juan Douglas & Co. will establish brewery and ice plant here.

MONTEREY.—J. D. Lockhart, of San Antonio, Tex., says a company has been organized in the States to establish factories in Mexico for making "sand-lime" brick.

QUERETARO.—A large electric generating plant is to be erected on the Tequisquiapam River near here by the Compania Explotadora del Tequisquiapam. The plant will furnish the necessary electrical energy to operate the interurban railway which the company is constructing between this city and Tequisquiapam.

ACATLAN, STATE OF VERA CRUZ.—An electric light plant is to be installed here. The federal government has exempted the machinery and other material for the plant from import duties.

PARRAL.—The government concession granted Aureliano de Leon, of this place, for establishing a plant for making crucibles and other supplies for assaying ores; $20,000 will be invested.

TORREON.—Alberto G. Cardenas, of this place, who obtained a concession from the Mexican Government to establish a factory here for the manufacture of artificial stone and mosaics, will invest $60,000 in the industry.

NADADORES, STATE OF COAHUILA.—Frederick Miller, of this city, has obtained a concession from the government to utilize 800 liters of water per second from a river near here. The power is to be used to run a 50-barrel flour mill.

SANTA ROSALIA.—The Encinalles Mining Co., Ltd., London, Eng., is back of the enterprise calling for the construction of a smelter at Santa Rosalia, on the Mexican Central R. R. The plant will have a capacity of 100 tons daily. Machinery is reported ordered.

GUANAJUATO.—George W. Bryant, Resident Mgr. of the American company which owns a group of rich mines in this section, says that preparations are being made to install electrical plants upon these several properties and that $4,000,000 to $5,000,000 will be expended in this improvement alone within the next three years.

SANTA ENGRACIA, STATE OF TAMAULIPAS.—Syndicate of American capitalists, represented by C. J. Richards, of Terre Haute, Ind., making arrangements to develop extensive gold and silver mines in this district and will expend $500,000 in preliminary work. If results are satisfactory a smelter will be erected at mines.

CITY OF MEXICO.—L. G. Blackhall has contracted with this city to sink five artesian wells in the grounds of the school of agriculture.——Earnest George and Luis Gavazini, of this city, have obtained government concession for a large factory for making steel files.——The government is preparing to establish factory for the manufacture of arms and cartridges for army use.

MEXICO CITY.—We are informed that Oscar and Thomas Braniff, Jr., left Mexico City on April 4 for New York for the purpose of contracting for the necessary plant for the utilization of the waters of the Atoyac and Tuxpango Rivers in the Canton of Cordoba, about halfway between this city and Vera Cruz. The rivers are about four kilometers apart and about 50,000 HP. can be developed. An engineer of the Westinghouse Co. has made the necessary surveys, plans and estimates.——Local papers state that B. F. Hoyt, American geologist, is now in this city investigating the water supply with a view of putting in an adequate system.

CITY OF MEXICO.—It is announced that the American Smelting & Refining Co. is preparing to greatly extend its operations in Mexico. It has just purchased the large smelter at San Luis Potosi, which was owned by the Towne interests, and negotiations are in progress for the purchase of the mines of the Hidalgo Mining Co., situated in the Hidalgo mining district, including about 75 miles of railroad. The Hidalgo Mining Co. is composed of Pittsburg Pa., men. John Hays Hammond, the mining engineer, will arrive in Mexico in a few days to investigate the properties.——Announcement of the plans of the Compania Internacional Empacadora indicate that the packing plants which it proposes to build in Mexico will be three in number and cost about $2,000,000, which is double the amount first reported. Plans are now being prepared for the plant to be erected here. Alberto Terrazas, of Chihuahua, Gen. Mgr., is here and will remain several months superintending the construction of the plant.

SANTO NINO, STATE OF SONORA.—The Yaqui Copper Co., 170 Broadway, New York, which is developing extensive mining properties in the state of Sonora, is planning extensions to its works at Santo Nifio in the way of a smelting plant, power house and various other buildings necessary for handling its products on a large scale. The company now has some 15 or more buildings at this place, but the additional works, when installed, will represent an expenditure in the millions. The smelter will have a daily capacity of 1,000 tons, in units of 200, and the power plant, which will be located on the Yaqui River, will be of 3,000 HP. Plans for the new works were recently started by J. F. Stultz, of Hermasillo, Mex., but have not yet progressed far enough to give details. The matter of contracting has not yet been taken up, and will not be until the plans assume definite shape. The materials for constructing the proposed works and the equipment for operating the same will be purchased in this country and through the company's New York office W. P. Harlow is Pres., and Henry I. Willey is Engr. of Mines.

FOREIGN CONTRACTS—EXPORT NEWS.

ELECTRIC LIGHTING.—Africa.—The electric lighting of Umtata, Griqualand East, is under consideration.

RAILWAY.—Spain.—A concession has been granted to Don Juan Isla Domenech for a narrow-gage railway from Leon to Mattallana.

DOCKS.—Bremen, Germany.—New docks, covering a distance of six miles long and one mile wide, will be created; also new fortifications.

RAILWAY.—Japan.—The construction of the proposed Yokohama-Hachioli Ry., at first a government project, will now be passed over to private capitalists.

RAILWAY.—St. Petersburg, Russia.—Reports state that a surveying party will leave Tomsk in the early spring to lay out a branch from the insection of the Obi River to Barnaul and Büsk, in the Altai Mts.

ANCHORS.—Birmingham, Eng.—Marshal Halstead, U. S. Consul, reports that a manufacturer of anchors wishes to be put in communication with makers of large steel castings and forgings; early orders and deliveries.

RAILWAY.—Corea.—The Söul-Chemulpo Ry. has been acquired by the Söul-Fusan Ry. Co., and 150,000 yen will be expended for replacing the wooden bridges of the first named road by steel structures and making other repairs.

SEWERAGE.—Bridgend, Eng.—Bids are asked until May 9 for constructing sewerage works in Garww Valley, between Bryncethin and Blaengrarw, comprising about 9½ miles of from 6 to 21-in. sewer, together with appurtenances. S. H. Stockwood, Clk. Council.

WATER-WORKS.—Uppingham, Eng.—Bids are wanted by the trustees of Uppingham School until May 7 for water-works, including pumping station, softening plant, engineer's house, lime house, providing and laying about 4¼ miles of 8-in. and 6-in. mains, and constructing a covered service reservoir at King's Hill of 300,000 gallons capacity. Geo. and F. W. Hodson, Engrs.

TRAMWAY, ETC.—Spain.—A concession granted to Augusto Eduardo Freire de Andrade for construction and working urban and suburban tramway lines by animal power in Coimbra. A decree has been promulgated authorizing the "Ferrocariles Econonomics del Italo Leobregat," concessionaires of the "Cortes y Paralejo" tramway, to substitute electric for animal power.

TRACTION RAILWAY.—Honduras.—The National Congress has recently granted a concession to Daniel Fortin, a resident of Tegucigalpa, to construct an automobile line or traction road for freight and passenger traffic over the road between that city and the Bay of Fonseca, about 80 miles. Alfred K. Moe, U. S. Consul has been advised by the concessionaire that he will purchase all the necessary supplies for the enterprise in the U. S. and will soon visit this country for that purpose.

SEWERAGE AND DRAINAGE.—Argentina.—The "Direccion General de Obras de Salubridad" will receive tenders until May 20 for constructing a sewer system and drainage works in the city of Salta, and until May 27 for constructing sewers in districts 17 and 23 of Buenos Ayres. Address 1255 Rivadavia, Buenos Ayres.——Railway.—Minister of Public Works will take bids until July 1 for constructing and equipping railway from Punta de los Llanos to San Juan; estimated cost, about $13,215.——River Improvement.—Expenditure of about $30,825 authorized to improve River Bermejo.

RAILWAY.—South Africa.—The Saldauba Bay Harbor & Estate Co., Ltd., has had a bill drawn up calling for a railway connecting the harbor of Saldauba Bay with the Cape railway system; also for building telegraph and telephone lines.——The Central South African Rys. Extension Conference has approved of the construction of the railway from Springs to Ermelo; estimated cost, $5,000,000. Also the extension of the Vereeniging-Johannesburg coal line at an estimated cost of $3,700,000; the Harrismith-Viljoens Drift extension along the Wilge River, already under construction. In all, sanction was given by the Conference to the construction of 668 miles of new lines, involving an estimated outlay of $25,805,000.

INDUSTRIAL NOTES.

THE UNITED COKE & GAS CO. has removed its offices from 36 Wall St. and 277 Broadway to 17 Battery Place, New York.

DODGE & DAY, engineers, of Philadelphia, are installing a new shop management system in the works of the Link-Belt Engineering Co.

THE C. O. BARTLETT & SNOW CO., of Cleveland, O., reports that it has just received an order from the Schwartzkopt Coal Dust Firing Syndicate, of Heydock, Eng., for style C, No. 3 grill, four-compartment dryers for drying coal. The Payne Consolidated Mining Co., of Sandon, B. C., and Wood & Swart, of Denver, Colo., have also ordered dryers.

THE PLUNGER ELEVATOR CO., of Worcester, Mass., reports the following among its recent sales: Two passenger elevators with a travel of 103 ft. and one freight elevator with a travel of 114 ft. for the Victoria Hotel, Broadway and 27th St., New York; four elevators, car travel 114 ft., for the State Mutual Life Insurance Bldg., Worcester; six elevators, with a travel of 125 ft., for the new building of the State Mutual Life Insurance Co., of Boston; and a car lift, with a travel of 25 ft. and a capacity of 60,000 lbs., for the car barn of the Worcester Consolidated St. Ry. Co.

THE COLUMBUS STEEL ROLLING SHUTTER CO., of Columbus, O., reports the following list of recent contracts: Flaherty & Co., Dayton, O., warehouse; Lane & Bodley Co., Cincinnati, core ovens; Hocking Valley Ry., Fultonham, O., freight sheds; Frederick Jaeger, Columbus, O., warehouse; W. Tomlinson, Architect for E. A. Cook, Chicago, warehouse; Stilwell-Bierce & Smith-Vaile Co., Dayton, O., machine shops; Nashville, Chattanooga & St. Louis Ry., Nashville, Tenn., tower stations; Standard Engineering Co., Ellwood City, Pa., machine shops; Mutual Realty Co., St. Louis, Mo., warehouse.

PUBLICATIONS RECEIVED.

EVAPORATING, CONDENSING AND COOLING APPARATUS.—Explanations, Formulas, and Tables for Use in Practice. By E. Hausbrand, Chief Engineer for C. Heckmann, Berlin. Translated from the Second, Revised German Edition by A. C. Wright. London: Scott, Greenwood & Co. New York: D. Van Nostrand Co. Cloth; 6 × 9 ins.; pp. 400; 76 tables, and 21 illustrations in the text. $5 net.

VENTILATION IN MINES.—By Robert Wabner, Mining Engineer. Translated from the German by Charles Salter. London: Scott, Greenwood & Co. New York: D. Van Nostrand Co. Cloth: 7 × 10 ins.; pp. 240; 30 plates, and 22 illustrations in the text. $4.50 net.

A HAND-BOOK ON THE STEAM ENGINE.—With Especial Reference to Small and Medium-Sized Engines. For the Use of Engine Makers, Mechanical Draftsmen, Engineering Students, and Users of Steam Power. By Herman Harder, C. E. Translated from the German, with Considerable Additions and Alterations, by H. H. P. Powles, Assoc. M. Inst. C. E., M. Inst. M. E. Third Edition, Revised. New York: D. Van Nostrand Co. London: Crosby, Lockwood & Son. Cloth; 5 × 7 ins.; pp. 458; tables, and 1,085 figures, including those on folding plates. $3.

THE PRINCIPAL SPECIES OF WOOD.—Their Characteristic Properties. By Charles Henry Snow, M. Am. Soc. C. E., Dean of the School of Applied Science, New York University. New York: John Wiley & Sons. London: Chapman & Hall. Cloth; 7 × 10 ins.; pp. 267; 39 full-page half-tones, and figures in the text. $3.50.

PROCEEDINGS OF NATIONAL CONVENTION UPON MUNICIPAL OPERATION AND PUBLIC FRANCHISES.—Vol. VI., No. 4, "Municipal Affairs." Paper; 7 × 10 ins.; pp. 509 to 882. New York: Reform Club, Committee on City Affairs. $1.

PROPOSALS TO CLEAN STREETS, AVENUES AND ALLEYS IN THE DISTRICT OF COLUMBIA, will be received at the office of the Commissioners, 464 Louisiana Ave., Washington, D.C., up to noon of May 1, 1903. The work consists of (1) Cleaning public alleys. (2) Cleaning unimproved streets, (3) Cleaning by machine, sweeping or flushing improved streets and avenues. Separate proposals will be received for each class of work. Specifications, forms of proposals, and all necessary information furnished upon application to the Superintendent of Street Cleaning Department. H. B. F. MACFARLAND, H. L. WEST, JOHN BIDDLE, Commissioners of the District of Columbia. 14-4t

For Proposals see pages XXXI., XXXII. of Advertisements, and pages 232, 233 of Supplement.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

BRIDGE.

Corning, N. Y., April 14, 1903.

Sealed proposals will be received at the office of the Mayor of the City of Corning, N.Y., until 10 o'clock a. m., Monday, May 4th, 1903, for the furnishing of all labor and material necessary for the construction, erecting and completing, ready for service, the following described work, viz.:

Item 1.—The building, erecting and furnishing of four (4) new spans each of approximately one hundred and forty-nine (149) feet in length over all, for bridge over the Chemung River, the design of same to meet the requirements of the Bridge Committee hereafter given.

Item 2.—The furnishing of all materials, labor, tools, etc., to repair the three easterly piers and the easterly abutment of the bridge known as the Gibson Highway Bridge in the City and Town of Corning, N. Y.

Item 3.—The construction of a sidewalk on the present westerly span of said bridge, said walk to conform to the walk on the proposed new spans.

NOTICE TO BIDDERS.

Bids wil be received for the above work separately on each item as above specified.

Bidders will be requested to furnish plans and specifications, with guarantee as to durability, etc., on each item.

General plans with sufficient detail for the correct understanding of what the bidders propose to furnish, build, transport, erect and put in satisfactory completion, must accompany each proposal submitted.

Bids will be received for doing all of the work, furnishing all materials, tools and labor necessary for the entire completion of same. The plans submitted must meet the following requirements:

(1) Loading to be Class B, of Cooper's or the American Bridge Co.'s specifications;
(2) Road to be twenty-two (22) feet wide and twenty-four (24) feet wide in the clear;
(3) Sidewalk to be placed on the northerly side of bridge and to be six (6) feet in the clear;
(4) Trusses to be solid riveted trusses;
(5) The new bridge to be constructed without hindrance or delay to traffic;
(6) The contractor must include in his specifications the following clauses: "The contractor has included in his estimate an amount equivalent to 75 cts. per net ton of finished steel work to provide for inspection at rolling mills and bridge shops by competent inspectors, to be approved by and solely responsible to the engineer, whose duty shall be to determine the quality of material and manufacture in accordance with these specifications and facilitate its prompt and orderly delivery."

The Committee reserves the right to specify the kind and color of paint to be used for three coats, and the manner in which it is to be spread.

The Committee reserves the right to accept or reject any bid, and to reject any or all bids, or to waive any informality in the bids, if they deem it to the City and Town's interest to do so.

C. F. PARKS,
17-2t Commissioner Town of Corning.

WATER PIPE AND SPECIALS.

Greene, N. Y.

Sealed proposals will be received until 7 o'clock p. m. of Wednesday, April 29, 1903, by the Board of Trustees of the Village of Greene, Chenango County, N. Y., for furnishing approximately 20,190 ft. of 4-in., 14,636 ft. of 6-in., and 7,705 ft. of 8-in. cast-iron Water Pipe, and approximately 6 tons of specials, according to specifications for the same prepared by Edgar B. Kay, Engineer, Ithaca, N. Y., to be used in the installation of a Water-works System for the Village of Greene, N.Y. Specifications can be had from the Board of Engineers.

The Board of Trustees reserve the right to reject any or all proposals, or to accept any that in their judgment will be for the best interests of the village.

All bids must be endorsed with the bidder's name on the outside of the envelope and marked "Proposal" and addressed to the Board of Trustees, Greene, N. Y.

By the order of the Board of Trustees of the Village of Greene, New York.

META L. COWLES,
17-2t Clerk of the Board.

OFFICE WASHINGTON AQUEDUCT, 2728 Pennsylvania Ave., Washington, D. C., April 22, 1903.—Sealed proposals for Venturi meters, sluice gates and gate valves, special castings, pumping engines, boilers, stokers and economizers, will be received here until 12 m., May 22, 1903, and then publicly opened. Information on application. A. M. MILLER, Lieut.-Col., Engrs. 17-2t 20-2t

STONE DOCK.

New Rochelle, N.Y., April 16, 1903.

Sealed proposals will be received by the City Clerk at his office in the City Hall Building, corner of Main and Mechanic Sts., up to 8 o'clock p. m., Tuesday, May 5, 1903, for the construction of a Stone Dock in Hudson Park, in the City of New Rochelle, N. Y. Contractors will be required to furnish a bond in the penal sum of $5,000, to insure the faithful performance of the work. A certified check for the sum of $500, payable to the City Treasurer, of the City of New Rochelle, N.Y., must accompany each proposal which will be returned to the unsuccessful bidders within three days after the contract is awarded; the check of the successful bidder to be retained until the contract and bond has been executed, accepted and approved.

Plans, profiles and specifications can be obtained from the City Engineer at his office in the City Hall on and after April 21, 1903.

The Common Council reserves the right to reject any or all bids.

All bids to be addressed to Charles Kammermeyer, City Clerk, and marked as such.

By order of the Common Council of the City of New Rochelle, N. Y.

CHARLES KAMMERMEYER,
17-2t City Clerk.

WATER-WORKS.

Dexter, Me., April 15, 1903.

Sealed proposals will be received until Thursday, May 7th, 1903, at 12 o'clock noon, for laying Water Pipe and setting special castings, valves, hydrants, and all other appurtenances. The contract will cover laying about 6 miles of 12, 10, 8 and 6-in. pipe.

Plans and specifications can be seen at the office of the Water Commissioners, Dexter, Me. Proposal blanks will be furnished contractors upon application. A certified check for the sum stated in the specifications payable to the Treasurer of Dexter, must accompany each bid.

ARTHUR P. ABBOTT
DAVID H. MUDGETT,
SAMUEL L. SMALL,
17-2t Water Commissioners, Dexter, Me.

CONCRETE OR CONCRETE-STEEL ARCH BRIDGE.

Office of Board of Public Works, Grand Rapids, Mich., Apr. 17, 1903.

Sealed proposals will be received at the office of the Board until Friday, May 15, 1903, at 1:30 p. m., for furnishing all materials, and executing all work necessary in the construction of a Concrete or Concrete-Steel Arch Bridge across Grand River at Bridge St. in the City of Grand Rapids, Mich., according to the plans and specifications on file at the office of the City Engineer.

The bridge consists of five arches, is 448 ft long between abutments, and 66 ft. wide between faces of cornice.

The Board reserves the right to reject any or all bids.

Each bidder shall deposit with his proposal a certified check or certificate of deposit payable to the order of the President of the Board of Public Works in the sum of 5% of his proposal, to be forfeited to the City of Grand Rapids as liquidated damages in case he shall fail to enter into contract in accordance with his proposal, should his proposal be accepted by the Board of Public Works.

Plans, notice to contractors, form of proposal, specifications, contract and bonds may be secured of the City Engineer. All proposals must be made upon the blank form of proposal acocmpanying the above.

Surety company bonds will be required.

JOS. EMMER, President.
L. W. ANDERSON, City Engineer.
Attest: JNO. C. BROWN, Clerk.

Plans and specifications may be seen at the office of Engineering News, Monadnock Block, Chicago, Ill. 17-3t

BRICK SEWER.

Sealed proposals will be received by the undersigned for sewering West Main St., with brick, till Tuesday, May 5, 1903, 4 o'clock p. m. Length of sewer, 4,600 ft. Estimated cost, $15,000. Full specifications at office of Engineering News, N. Y., or by addressing

G. H. BEINECKE,
Sec'y. Board of Local Improvements,
17-1t Belleville, Ill

TREASURY DEPARTMENT, Bureau of the Mint, Washington, D. C., April 15, 1903.—Sealed proposals will be received at the Treasury Department, Office of the Director of the Mint, Washington, D.C., until 2 o'clock p. m., on the 5th day of May, 1903, and then opened, for furnishing and installing a three-motor Traveling Crane in the United States Mint Building at Denver, Colo.; also for furnishing a 45-HP. motor-generating set for the same building. Bidders will state which specification they desire when making request. Copies of the specifications may be obtained at this office, at the discretion of the Director of the Mint, upon application. ACTING DIRECTOR OF THE MINT. 17-1t

SEWER.

New London, Conn., April 18, 1903.

Sealed proposals for the construction of a Submerged 18-in. Wooden Outfall Sewer will be received by the Board of Sewer Commissioners at its office, City Hall Building, New London, Conn., on May 7th, 1903, at 7:30 o'clock p.m. Plans and specifications may be seen at the above office. The right is reserved to reject any or all bids. W. H. RICHARDS, Engineer. 17-1t

IMPROVEMENT OF DELAWARE RIVER.—U. S. Engineer Office, Philadelphia, Pa., April 21, 1903.—Sealed proposals for removing rock and overlying and adjacent material in Delaware River at Schooner Ledge will be received here until 12 o'clock noon, May 22, 1903, and then publicly opened. Information furnished on application. C. W. RAYMOND, Lieut.-Col., Engrs. 17-4t

U. S. ENGINEER OFFICE, 25 Pemberton Square, Boston, Mass., April 23, 1903.—Sealed proposals for Rock Excavation in Boston Harbor, Mass., will be received here until noon, May 26, 1903, and then publicly opened. Information furnished on application. W. S. STANTON, Lieut.-Col., Engrs. 17-3t 21-1t

PROPOSALS FOR THE CONSTRUCTION OF SECTIONS B AND C OF THE B ST. AND NEW JERSEY AVE. TRUNK SEWER.—Office of the Commissioners, D. C., Washington, D. C., April 23, 1903.—Sealed proposals will be received at this office until 1 o'clock m., June 6, 1903, for constructing Sections B and C of the B St. and New Jersey Ave. Trunk Sewer in the District of Columbia. Forms, specifications and necessary information may be obtained at this office. HENRY B. F. MACFARLAND, HENRY L. WEST, JOHN BIDDLE, Commissioners, D.C. 17-4t

U. S. ENGINEER OFFICE, Wheeling, W. Va., April 22, 1903.—Sealed proposals for furnishing and delivering irons for Lock for Dam No.18, Ohio River, will be received here until 11 a. m. (Eastern time), May 21, 1903, and then publicly opened. Information furnished on application. GEO. A. ZINN, Major Engrs. 17-4t

OFFICE CONSTRUCTING QUARTERMASTER, Cheyenne, Wyo., April 8, 1903.—Sealed proposals, in triplicate, will be received at this office until 2 o'clock p. m., Mountain time, May 8, 1903, and then opened for furnishing all material and labor necessary to extend the present Water System at Fort D. A. Russell, Wyo., consisting of about 9,100 ft. of 6-in. and 1,450 ft. of 4-in. cast-iron pipe, including the necessary valves and fire hydrants. Bidders must state in their bids the time in which they will complete the work as time will form an important factor in making the award. Full information, blank forms, plans and specifications furnished on application to this office; also to the office of Depot Quartermaster, Omaha, St. Paul, Chicago, New York, Philadelphia, Jeffersonville, Ind., St. Louis, Fort Leavenworth, Kan., and Denver. United States reserves the right to accept or reject any or all bids or any part thereof. Envelopes containing bids to be endorsed "Proposals for Water System at Fort D. A. Russell, Wyo.," and addressed to Capt. W. S. SCOTT, Constructing Quartermaster, Cheyenne, Wyo. 15-4t

U. S. ENGINEER OFFICE.—Washington Barracks, D. C., April 1, 1903.—Sealed proposals for Portland and natural cement, sand, gravel, construction of roads and sidewalks, including grading and retaining walls, sewers, drains and water supply system, at Washington Barracks, D. C., will be received at this office until noon, April 30, 1903, and then publicly opened. Information furnished on application. JOHN STEPHEN SEWELL, Captain Engineers, Acting Q. M., U. S. A. 14-4t

OFFICE CONSTRUCTING QUARTERMASTER, Cheyenne, Wyo., March 31, 1903.—Sealed proposals, in triplicate, will be received at this office until 2 o'clock p. m. (Mountain time) May 1st, 1903, and then opened, for furnishing all material and labor necessary for the construction of about 1,850 ft. of 6-in. Sewer at Fort D. A. Russell, Wyo. Full information, blank forms, plans and specifications furnished on application to this office; also to the office of the Chief Quartermaster, Chicago, St. Paul, Omaha, Ft. Riley, Kan., and Denver. United States reserves the right to accept or reject any or all bids or any part thereof. Envelopes containing bids to be endorsed "Proposal for Sewer System at Fort D. A. Russell, Wyo.," and addressed to Capt. W. S. SCOTT, Constructing Quartermaster, Cheyenne, Wyo. 14-4t

OFFICE OF THE CONSTRUCTING QUARTERMASTER, 621 Dooly Building, Salt Lake City, Utah, April 15, 1903.—Sealed proposals in triplicate, will be received here until 11 a. m., standard time, May 4th, 1903; and then opened for the Plumbing, Heating, Gas Piping and Electric Wiring of two double Cavalry Barracks, to be erected at Fort Douglas, Utah. Information and blank forms of proposals furnished on application to this office. Plans and specifications may be seen here. United States reserves the right to accept or reject any or all proposals, or any part thereof. Envelopes containing proposals to be marked, "Proposals for Public Buildings," and addressed to Capt. SAM'L V. HAM, Quartermaster. 16-3t

U. S. ENGINEER OFFICE, Winthrop Bldg., Boston, Mass., April 1, 1903.—Sealed proposals for Dredging in Narrows of Lake Champlain, Vt., and Plattsburg Harbor, N. Y., will be received here until 12 m., May 1, 1903, and then publicly opened. Information furnished on application. HARRY TAYLOR, Captain, Engrs. 14-4t

TREASURY DEPARTMENT.—Office of the Director of the Mint, Washington, D. C., March 25, 1903.—Sealed proposals will be received at this office until 2 o'clock p. m., on the 28th day of April, 1903, and then opened, for the installation of an Electric Light and Power Plant in the U. S. Mint building, Denver, Colo. Copies of the specification may be obtained at this office, at the discretion of the Director of the Mint. R. E. PRESTON, Acting Director of the Mint. 14-4t

PUMPING PLANT AND IMPROVING WATER SUPPLY.

Martinsburg, W. Va.

Sealed proposals will be received by the Water Board of the Corporation of Martinsburg, W. Va., until 12 o'clock noon, on the 21st day of May, 1903, for the construction of a Pumping Plant, and the Improvement of Water Supply. Each bid must be accompanied by a certified check for $500 payable to Wm. R. Kline, Chairman.

The Water Board, in behalf of the Corporation of Martinsburg, reserves the right to reject any or all bids.

Plans and specifications are on file at the office of the City Clerk.

WM. R. KLINE,
Chairman Water Board.
N. WILSON DAVIS, Engineer.
A. F. LAMBERT, City Clerk. 17-2t

U. S. ENGINEER OFFICE, Portland, Ore., March 25, 1903.—Sealed proposals will be received here for 475,000 tons, more or less, Stone for Extension of Jetty at mouth of Columbia River, Oregon and Washington, until 11 a. m., April 30, 1903, and then publicly opened. Information on application. W. C. LANGFITT, Capt., Engrs. 13-3t 17-1t

OFFICE CONSTRUCTING QUARTERMASTER, Cheyenne, Wyo., April 2, 1903.—Sealed proposals, in triplicate, will be received at this office until 2 o'clock p.m. (Mountain time), May 2, 1903, and then opened, for furnishing all material, machinery, tools and labor necessary for sinking at least two (2) and not exceeding six (6) tubular deep wells at Fort D. A. Russell, Wyoming. Specifications, instructions to bidders, and blank forms of proposal furnished on application to this office; also to the office of the Chief Quartermaster, Chicago, Omaha, St. Paul, and Denver. United States reserves the right to reject any or all bids or any part thereof. Envelopes containing bids to be endorsed "Proposals for Sinking Wells at Fort D. A. Russell, Wyo.," and addressed to Capt. W. S. SCOTT, Constructing Quartermaster, Cheyenne, Wyo. 14-4t

U. S. ENGINEER OFFICE, Grand Rapids, Mich., April 6, 1903.—Sealed proposals for repair of Piers at St. Joseph and Black Lake, Mich., will be received here until 3 p. m., May 6 1903, and then publicly opened. Information furnished on application. J. G. WARREN, Major, Engrs. 15-4t

WEST POINT, N. Y., April 1, 1903.—Sealed proposals, in duplicate, will be received here until 12 m., May 1, 1903, for building materials, plumbing materials, Hardware, Tools, Paints, Glass, Furnace and Range Parts and other miscellaneous stores specified on schedules to be had upon application here. The right is reserved to reject or accept any or all proposals, or any part thereof. Enclose proposals in envelopes marked "Proposals for Military Supplies," and addressed to Q. M., U. S. M. A. 14-5t

SEALED PROPOSALS will be received at the office of the National Home for Disabled Volunteer Soldiers, 346 Broadway, New York, N. Y., until 12 o'clock M., Thursday, April 30, 1903, and then opened, for furnishing supplies, furniture, appliances, etc., for the equipment of the Hospital at the Mountain Branch, N. H. D. V. S., near Johnson City, Tenn. Copies of instructions and specifications together with blank proposals and other information may be had upon application to MOSES HARRIS, General Treasurer, 346 Broadway, New York, N. Y. 15-3t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., April 8th, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 11th day of May, 1903, and then opened, for the approaches at the U. S. Post Office and Court House at Elmira, N. Y., in accordance with drawing and specification, copies of which may be had at this office or the office of the Superintendent of Construction of the building at Elmira, N. Y., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 16-2t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., April 11, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 14th day of May, 1903, and then opened, for the construction (except heating apparatus and passenger elevator) of the extension of the U. S. Custom House and Post Office at Hartford, Conn., in accordance with drawings and specifications, copies of which may be had at this office, or at the office of the Custodian at Hartford, Connecticut, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 16-2t

U. S. ENGINEER OFFICE, New London, Conn., Apr. 14, 1903.—Sealed proposals, in triplicate, for Dredging in New London Harbor, New London, Conn., will be received here until 12 noon, May 15, 1903, and then publicly opened. Information on application. CHAS. F. POWELL, Maj., Engrs. 16-4t

U. S. ENGINEER OFFICE, Army Building, New York, April 15, 1903.—Sealed proposals for dredging in Hudson River and Saugerties Harbor, N. Y., will be received here until 12 m. May 15, 1903, and then publicly opened. Information on application. AMOS STICKNEY, Col., Engrs. 16-4t

OFFICE OF THE ENGINEER IN CHARGE IMPROVEMENT OF THE PORT.—Manila, P. I., February 15, 1903.—Sealed proposals for constructing an additional Breakwater at Manila, P. I., will be received at this office until 11 o'clock a. m., June 15, 1903, and then publicly opened. Work to be done includes about 450,000 tons of 2,240 lbs. each, of rock filling, in water of approximately 30 ft. depth. Bids must be accompanied by a bond of $50,000 U. S. currency. One contract will be made for the whole work. Contractor's bond will be for 10% of the amount bid. The right is reserved to reject any or all bids. For specifications and blank forms, apply to this office, the U. S. Engineer Office, Room "H," Army Bldg., New York City, N. Y.; the U. S. Engineer Office, 1657 Indiana Ave., Chicago, Ill.; or the U. S. Engineer Office, Room 41, Flood Bldg., San Francisco, Cal. CLINTON B. SEARS, Major, Corps of Engrs., U. S. Army, in Charge. 11-9t

ADVERTISERS' CLASSIFIED DIRECTORY.

CONTINUED ON PAGE 159.

Air Brakes.
Westinghouse Air Brake Co, Pittsburg, Pa

Air Compressors.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Air Compressor Wks, 26 Cortlandt st, N Y
American Well Works, Aurora, Ill
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 212-17 Herman bldg, Milwaukee
Clayton Air Compressor Works, 114 Liberty st, N Y
d'Auria Pumping Engine Co, Drexel bldg, Phila
Fairbanks, Morse & Co, Chicago
General Pneumatic Tool Co, Montour Falls, N Y
Gray-Blaisdell Co, Bradford, Pa
Guild & Garrison, So 10th st, Brooklyn, N Y
Ingersoll Sergeant Drill Co, 26 Cortlandt st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati O
McGowan, John H, Co, Cincinnati, O
McKiernan Drill Co, 170 Liberty st, N Y
Norwalk Iron Works, So. Norwalk, Conn
Rand Drill Co, 128 Broadway, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa

Air Drill.
Columbus Pneumatic Tool Co, Columbus, Ohio

Air Hose Couplers
Clark Co, W J, Salem, Ohio

Aluminum
Pittsburg Reduction Co, Pittsburg, Pa

Annealing Boxes.
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg, Pa

Artesian Wells.
Bacon Air Lift Co, 100 Broadway, New York
Cole Bros, 102 Fulton st, New York
Conlan, P H & J, Newark, N J
Cook Well Co, St. Louis, Mo.
Gregory, Elisha, 123 Liberty st, New York
Phillips & Worthington, 11 Broadway, New York
Stothoff Bros, Flemington, N J
Williams Bros, Ithaca, N Y

Artesian Well Tools and Supplies.
Star Drilling Mach Co, 104 Fulton st, New York

Asphalt.
Commercial Asphalt Co, 11 Broadway, New York
Sicilian Asphalt Paving Co, Times bldg, New York
Warren Bros Co, 93 Federal st, Boston

Asphalt Machinery.
Cummer, F D, & Sons, Cleveland, O
Erie Machine Shops, Erie, Pa
Iroquois Iron Works, Buffalo, N Y

Batteries (Storage).
Coho & Co, H B, 111 Liberty st, New York

Bearings (Ball and Roller.)
Ball Bearing Co, 232 Market st, Philadelphia
Bantam Mfg Co, Bantam, Conn
Standard Roller Bearing Co, Philadelphia

Balances. (Assay and Analytical.)
Ainsworth, Wm. & Sons, Denver, Colo

Belt Dressing.
Dixon, Jos., Crucible Co, Jersey City, N J
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Canvas.)
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Chain)
Aultman Co, Canton, O
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Philadelphia

Belting (Leather)
Graton & Knight Mfg. Co, Worcester, Mass

Belt Lacing. (Steel.)
Bristol Co, Waterbury, Conn

Blast Furnaces.
Girard Boiler & Mfg Co, Girard, O
Means & Fulton Iron Works, Birmingham, Ala
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa

Blocks and Sheaves.
American Hoist & Derrick Co, St Paul, Minn
Boston & Lockport Blk. Co, 160 Commercial st, Boston
Hunt, C W Co, Richm'd Terrace, W N Brighton, S I
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
Yale & Towne Mfg Co, 9-13 Murray st, New York

Blowers.
American Blower Co, Detroit, Mich
Boston Blower Co, Business st, Hyde Park, Mass
Buffalo Forge Co, Buffalo, N Y
Mass. Fan Co, Waltham Mass
Roots, P H & F M Co, Connersville, Ind
Sturtevant, B F Co, Boston, Mass

Blue Printing Apparatus.
Elliott Electric Blue Print Co, Pittsburg.
Emerson Mfg. Co, F W, Rochester, N Y
Keuffel & Esser Co, 127 Fulton st, New York
Pittsburg Blue Print Co, 1505-C Park bldg, Pittsburg
Soltmann, E G, 123 E 42d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston

Blue Print Paper.
Elliott Electric Blue Print Co, Pittsburg
Keuffel & Esser, 127 Fulton st, New York
Soltman, E.G, 123 E 42d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston
(see also Instruments, Engineering, etc.)

Boiler Supplies.
Glasgow Iron Co, Pottstown, Pa

Boilers
Allis-Chalmers Co, Home Ins bldg, Chicago
Bacon, Earle C, 26 Cortlandt st, New York
Du Bois Iron Works, Du Bois, Pa
Enterprise Boiler Co, Youngstown, O
Fairbanks, Morse & Co Chicago
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Works, East Boston, Mass
Iroquois Iron Works, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego, N Y
Leffel, Jas. & Co, Springfield, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Morris Machine Works, Baldwinsville, N Y
McNeil, Jas. & Bro, 29th & Railroad sts, Pittsburg
Means & Fulton Iron Works, Birmingham, Ala
Mundy, J S, Newark, N J
Petroleum Iron Wks Co, Washington, Pa
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Sharon Boiler Works, Sharon, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Variety Iron Works Co, Cleveland, Ohio
Warren City Tank & Boiler Works, Warren, O

Boilers (Water Tube.)
Babcock & Wilcox Co, 29 Cortlandt st, New York
Harrison Safety Boiler Works, 3166 N 17th st, Phila
Keeler, E, Co, Williamsport, Pa
Walsh, W J, Holyoke, Mass

Bolt Clippers.
Helwig Mfg Co, St. Paul, Minn

Bolts. (Expansion.)
Church, Isaac, Toledo, O
Steward & Romaine Mfg Co, 120 N 6th st, Phila

Boots and Shoes.
Putman, H J, & Co, 38 Bridge sq, Minneapolis

Brakes.
Brill, J G Co, Philadelphia, Pa
(see also Air Brakes.)

Brass Rolling Machinery.
Poole, Robert, & Son Co, Baltimore, Md

Brick.
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Egyptian Silica Brick Process Co, Fredericksburg, Va
Jackson, John H, Albany, N Y
Johnsonburg Vit Brick Co, Johnsonburg, Pa
Mack Mfg Co, New Cumberland, West Virginia
McAvoy Vit Brick Co, 1345 Arch st, Philadelphia
Purington Paving Brick Co, Galesburg, Ill
Tomkins, Calvin, 120 Liberty st New York
Western Brick Co, Danville, Ill

Brick. (Fire.)
Maurer, Henry, & Son, 422 E 23d st, New York
New York Pottery Co, 12th ave & 36th st, N Y
Syracuse Stoneware Co, Syracuse, N Y

Brick Bond
Union Brick Bond Co, Pittsburg, Pa

Brick Machinery.
Bonnot Co, Canton, Ohio
Drake, C T, 300 W Jackson Boulevard Chicago

Bridge (Concrete).
Abertnaw Construction Co, Boston, Mas

Bridge Operating Machinery.
Edwards, Jos. & Co, 414 Water st, New York
Vulcan Iron Works, Chicago

Bridge Railings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia, Pa
King Bridge Co, Cleveland, O
Massillon Bridge Co, Massillon, Ohio
Stupp Bros. Bridge & Iron Co, St. Louis, Mo

Bridges and Buildings.
American Bridge Co, New York
Baltimore Bridge Co, Bush st & B & O R R, Baltimore
Bellefontaine Bridge & Iron Co, Bellefontaine, Ohio
Berlin Construction Co, Berlin, Conn
Boston Bridge Works, 47 Winter st, Boston, Mass
Champion Bridge Co, Wilmington, Ohio
Chicago Bridge & Iron Co, Chicago
Clinton Bridge & Iron Works, Clinton, Iowa
Columbia Bridge Co, Pittsburg
Concrete-Steel Engineering Co, Park Row bldg N
Easton Foundry & Machine Co, Easton, Pa
Eichleay, Jr., & Co., John, Pittsburg, Pa
Fort Pitt Bridge Works, Pittsburg, Pa
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Havana Bridge Works, Montour Falls, N Y
Joliet Bridge & Iron Co, Joliet, Ill
Kenwood Bridge Co, First Nat. Bank bldg, Chicago
King Bridge Co, Cleveland, Ohio
Massillon Bridge Co, Massillon, Ohio
McClintic-Marshall Construction Co, Pottstown, Pa
Mo. Valley Bridge & Iron Works, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, Ohio
New Castle Bridge Co Indianapolis
New England Structural Co, Boston, Mass
Parker, T A, 202-208 North First st, Terre Haute Ind
Passaic Rolling Mill Co, Paterson, N J
Penn Bridge Co Beaver Falls, Pa
Pennsylvania Steel Co, Steelton, Pa
Phoenix Bridge Co, Phoenixville, Pa
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Rogers Iron Co, Springfield, O
San Francisco Bridge Co, 220 Market st, San Franc
Scaife, W B, & Sons Co, Pittsburg, Pa
Shoemaker, Lewis F, & Co, Harrison bldg, Pa
Standard Bridge Co, Omaha
Strobel, C L, Monadnock block, Chicago, Ill
Stupp Bros. Bridge & Iron Co, St. Louis, Mo
Vane & Young, Baltimore, Md
Variety Iron Works Co, Cleveland, Ohio
Virginia Bridge & Iron Co, Roanoke, Va
Wabash Bridge & Iron Works, Wabash, Ind
Youngstown Bridge Co, 320 Broadway, New York

Bridges (Rolling Lift.)
Scherzer Rolling Lift Bridge Co, Chicago

Buckets (Automatic.)
Brown Hoisting Machinery Co, Cleveland
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, N Y
Stuebner, G L, Long Island City, N Y
Union Iron Works, Hoboken, N J

Bumping Posts.
McCord & Co, 1445 Old Colony bldg, Chicago
Mechanical Mfg Co, Chicago

Bunkers (Suspension.)
Berquist, A S, 515 Bedford ave, Brooklyn, N Y

Burners (Oil.)
Hammel, C A 120 Fifth st, Los Angeles, Cal

Cableways (Suspension.)
Bacon, Earle C, 26 Cortlandt st, New York
Beatty M, & Sons, Welland, Ont
Broderick & Bascom Rope Co, St. Louis
Carson Trench Machine Co, 19 Dorrance st, Boston
Flory, S, Mfg Co, Bangor, Pa
Lambert Hoisting Engine Co, Newark, N J
Leschen, A, & Sons Rope Co, St. Louis
Lidgerwood Mfg Co, 96 Liberty st, New York
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
N. J. Foundry & Machine Co, 9 Murray st, N Y
Trenton Iron Co, Trenton, N J
United Telpherage Co, 20-22 Broad st, New York

Calking Yarn and Tools.
Ogden, J. Edward, Co, 149 Cedar st, New York

Car Couplers.
McConway & Torley Co Pittsburg, Pa
Railroad Supply Co, Bedford bldg, Chicago

Car Heating and Lighting.
Brill Co, J G, Philadelphia, Pa
Safety Car Heating & Lighting Co, 160 B'way, N Y

Car Trucks.
Brill, Co, J G Philadelphia, Pa

Car Wheels.
Brill Co, J G, Philadelphia, Pa
Cayuta Wheel & Foundry Co, Sayre, Pa
Ramapo Iron Works, Hillburn, N Y

Cars (Dump, Plantation, Flat, Hand, Logging Mining and Freight.)
Apex Equipment Co, 11 Broadway, New York
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Efros Co, Chas, Bayonne, N J
Fairbanks, Morse & Co, Chicago
Ingoldsby Auto. Car Co, Chemical bldg, St. Louis
Koppel, Arthur, 68 Broad st, New York
National Drill & Mfg Co, 15? La Salle st, Chicago
Pressed Steel Car Co, Pittsburg, Pa
Ramapo Iron Works, Hillburn, N Y
Standard Steel Car Co, Frick bldg, Pittsburg
Steubner, G L, 176 Third st, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York

Cars (Narrow Gage.)
Brill, J G Co, Philadelphia, Pa
Hunt, C W, Co, Richmond Terrace, W N Brighton, N Y
Koppel, Arthur, 68 Broad st, New York
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York

Cars (Passenger & Freight.)
Brill, J G, Co, Philadelphia, Pa
Koppel, Arthur, 68 Broad st, New York

Cars (Wrecking & Ditching.)
Bucyrus Co, S. Milwaukee, Wis
Case Mfg Co, Columbus, O
Osgood Dredge Co, 37 State st, Albany N Y

Castings (Brass.)
Campbell, J B, Brass Works, Cascade st, Erie Pa

Castings (Iron.)
Builders Iron Foundry, Providence, R I
Brooks, T H, & Co, Cleveland, O
Coldwell-Wilcox Co, Newburg, N Y
Columbia Machine Works, 247 Chestnut st, Brooklyn
Dimmick Pipe Co, Birmingham, Ala
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Du Bois Iron Works, Du Bois, Pa
Easton Foundry & Machine Co, Easton, Pa
Fox, John & Co, 253 Broadway, N Y
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co, Genesee st, Utica, N Y
Poole, Robert, & Son Co, Baltimore, Md
Reading Foundry Co, Ltd, Reading, Pa
Sessions Foundry Co, Bristol, Conn
Variety Iron Works Co, Cleveland, O
Warren Foundry & Machine Co, 160 Broadway, N Y
(see also Sewer and Street Castings)

Cement (Portland.)
Alpha Portland Cement Co, Easton, Pa
Alsen's Am Portland Cement Wks, 45 Broadway, N Y
American Cement Co, 22 S 15th st, Philadelphia, Pa
Atlas Portland Cement Co, 30 Broad st, New York
Buckeye Portland Cement Co, Bellefontaine, Ohio
Coplay Cement Mfg Co, 1123 Broadway, N Y
Empire Portland Cement Co, Warners, N Y
Fredenburg & Lounsbury, Metropolitan bldg, N Y
French, Samuel H, & Co, Philadelphia
General Supply & Construct'n Co, 8-10 Bridge st, N
Glens Falls Portland Cement Co, Glens Falls, N Y
Hartranft, Wm G, Cement Co, Philadelphia
Helderberg Cement Co, Albany, N Y
Illinois Steel Co, Rookery, Chicago
Kelley Island Lime & Transport Co, Cleveland, Ohio
Lawrence Cement Co, 1 Broadway, New York
Lehigh Portland Cement Co, Allentown, Pa
Sinclair & Babson, 45 Broadway, New York
Snyder, Hiram, & Co, 229 Broadway, New York
St Louis Portland Cement Co, St Louis
Thorn Cement Co, 112 Church st, Buffalo, N Y
Vulcanite Portland Cement Co, 160 Fifth ave, N Y
Warner, Chas, Co, Wilmington, Del

Cement (Rosendale.)
Consolidated Rosendale Cem. Co, 26 Cortlandt st, N Y
Coplay Cement Mfg Co, 1123 Broadway, N Y
Cumberland (Md.) Cement & Mfg Co, P O Box 264
Meacham & Wright, Chamber of Commerce, Chicago
Milwaukee Cement Co, Milwaukee, Wis
Snyder, Hiram, & Co, 229 Broadway, New York
Tomkins, Calvin, 120 Liberty st, New York
Union Akron Cement Co, 141 Erie st, Buffalo, N Y
Western Cement Co, Louisville, Ky

Cement Kilns and Machinery
Allis-Chalmers Co, Home Ins bldg, Chicago
Bartlett, C O, & Snow Co, Cleveland, Ohio
Bonnot Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Clark, J C, Box 525, Atlanta, Ga
Dodge Mfg Co, Mishawaka, Indiana
Kent Mill Co, 170 Broadway, New York
Jeffrey Mfg Co, Columbus, Ohio
Smidth, F L, & Co, 66 Maiden Lane, New York
Sturtevant Mill Co, 108 Clayton st, Boston
Vulcan Iron Works, Wilkesbarre, Pa
West Pulverizing Mach. Co, Jersey City, N J

Cement Mixer.
Alexander Iron Works, Syracuse, N Y

Chain Blocks.
Yale & Towne Mfg Co, 9-13 Murray st, New York

Chains.
Newhall Chain Forge & Iron Co, 9 Murray st, N Y

Channelers.
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago, Ill

Chemists.
McKenna, Chas. F, 221 Pearl st, N Y
(see also Laboratories.)

Chimneys. (Brick.)
Custodis, A, Chimney Const'n Co, Bennett bldg, N Y

Coal and Ore Handling Machinery.
Aultman Co, Canton, Ohio
Bacon, Earle C, 26 Cortlandt st, New York
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Brown Hoisting Machinery Co, Cleveland, O
Exeter Machine Works, Pittston, Pa
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, Ohio
King Bridge Co, Cleveland, Ohio
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, N Y
Link Belt Engineering Co, Nicetown, Phila
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, New York
N. J. Foundry & Machine Co, 9 Murray st, New York
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Robins Conveying Belt Co, 14-21 Park Row, N Y
Simpson, H S, Mfg's Agt, Electric bldg, Cleveland
Steubner, G L, 175 Third st, Long Island City, N Y

Colleges (Engineering.) (see page IV.)

Concentrators.
Allis-Chalmers Co, Home Ins bldg, Chicago

Concrete Mixers.
Clyde Iron Works, Duluth, Minn
Cockburn Barrow & Mach. Co, Jersey City, N J
Contractor's Plant Co, 37 Pittsburg st, Boston
Contractors' Supply & Equip. Co, 232 5th av, Chicago
Drake, C T, 300 W Jackson Boulevard, Chicago
Fisher & Saxton Co, 123 G st, N E, Washington
Gilbreth, Frank B, 176 Federal st, Boston
Iroquois Iron Works, Buffalo
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
McKelvey Concrete Mach'y Co, Security bldg, Chicago
Municipal Eng & Contr'g Co, Manhattan bldg, Chicago
Ransome Concrete Mach'y Co, 11 Broadway, N Y

Concrete Building Apparatus.
Farrell, Thos C, Washington, New Jersey

Condensers.
Alberger Condenser Co, 95 Liberty st, N Y
Allis-Chalmers Co, Home Ins bldg, Chicago
Davidson M T, 58 Keap st, Brooklyn, N Y
Dean Bros, Steam Pump Works, Indianapolis, Ind
Epping-Carpenter Co, Pittsburg
Guild & Garrison, So 10th st, Brooklyn, N Y
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Conduits (Pipe.)
American Vitrified Conduit Co, 170 Broadway, N Y
Blackmer & Post Pipe Co, St. Louis, Mo
Camp, H B Co, 170 Broadway, New York
Eppinger & Russell Co, 66 Broad st, New York
Field, C J, 29 Broadway, New York
Standard Vitrified Conduit Co, 39 Cortlandt st, N Y
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Contractors.
Abbot-Gamble Contracting Co, St. Louis and N Y
American Pipe Mfg Co, 112 N Broad st, Philadelphia
Bates & Rogers Const'n Co, 1238 Manhattan bldg, Chic
Cook Well Co, St. Louis, Mo
Eastern Construction Co, 48 Classon ave, Brooklyn, NY
Eichleay, John, Jr, Co, Pittsburg
Esson, W A, & Co 1137 Stock Exchange bldg, Chicago
Foundation & Contracting Co, 37 Nassau st, New York
Gahagan, W H, 189 Montague st, Brooklyn, N Y
Gest, G M, Cincinnati and New York
Gilbreth, Frank B, 176 Federal st, Boston
Gillespie, T A, Co, Westinghouse bldg, Pittsburg, Pa
McCabe, Jas. F, 504 Equitable bldg, Baltimore, Md
McMullen, Arthur & Co, 13-21 Park Row bldg, N Y
O'Rourke, John F, Park Row bldg, New York
Philippine Eng & Const'n Co, P.O. Box 572, Manila, P.I.
Phillips & Worthington, 11 Broadway, New York
Quigley, R M, & Co, Laclede bldg, St. Louis, Mo
Regan & Mulock, D P, 4429 Chestnut st, Philadelphia
Snare & Triest, 39 Cortlandt st, New York
United Eng & Con Co, 13-21 Park Row, New York
(see also Artesian Wells; Asphalt Paving; Bridges; Dredging; Wharf and Pier Builders.)

Contractors' Tools and Supplies.
Bond, H L, & Co, Pearl & Purchase sts, Boston, Mass
Crane & Co, Inc, A M, The Rookery, Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia

Conveyers. (See Hoisting and Conveying Machinery; also see Trench Machines.)

Cooling Towers.
Alberger Condenser Co, 95 Liberty st, New York
Davidson, M T, 58 Keap st, Brooklyn, N Y
Worthington, Henry R, Brooklyn, N Y

Cranes.
Am. Hoist & Derrick Co, St. Paul, Minn
Brown Hoisting Machinery Co, Cleveland, O
Bucyrus Co, S Milwaukee, Wis
Case Mfg Co, Columbus, Ohio
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Industrial Works, Bay City, Mich
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Manning, Maxwell & Moore, 85 Liberty st, New York
Marion Steam Shovel Co, Marion, Ohio
Niles Tool Works Co, 136-138 Liberty st, New York
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Wood, R D, & Co, Philadelphia, Pa

Cranes (Portable).
North Penn Iron Co, 3d & Sedgley ave, Philadelphia

Creosoting.
American Creosote Works, New Orleans
Atlantic Creo & Wood Pres Works, Norfolk, Va
Carbolineum Wood Preserving Co, 13 Park Row, N Y
Eppinger & Russell Co, 66 Broad st, New York
International Creosoting & Con. Co, Galveston, Tex
New Orleans Wood Pres Works, New Orleans, La
Norfolk Creosoting Co, Norfolk, Va
U S Wood Preserving Co, 29 Broadway, New York
West Pascagoula Creosote W'ks, W Pascagoula, Miss
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Crucibles.
Dixon, Jos., Crucible Co, Jersey City, N J

Damper Regulators.
d'Este, Julian Co, 15 Canal st, Boston

Derrick and Derrick Fittings.
American Hoist & Derrick Co, St. Paul, Minn
Byers, John F, Machine Co, Ravenna, Ohio
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Dobbie Foundry & Machine Co, 148 Dey st, N Y
Hayward Co, 97 Cedar st, New York
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
Lambert Hoisting Engine Co, Newark, N J

Diamond Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago

Differential Hoists.
Boston & Lockport Block Co, Boston, Mass

Ditching and Excavating Machinery
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, S Milwaukee, Wis
Carson Trench Machine Co, 16 Dorrance st, Boston
Hayward Co, 97 Cedar st, New York
Marion Steam Shovel Co, Marion, Ohio
Osgood Dredge Co, Albany, N Y
Soutner, John, & Co, 12 Post Office Square, Boston
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago
Vulcan Iron Works Co, Toledo
Western Wheeled Scraper Co, Aurora, Ill

Diver.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill
Lowe Wrecking & Diving Co, 2 Coenties slip, N Y

Diving Apparatus.
Morse, Andrew J, & Son, 140 Congress st, Boston
Schrader's, A, Son, 32 Rose st, New York

Docks (Composite and Steel Floating).
Crandall, H I, & Son Co, East Boston, Mass

Doors and Door Fittings.
Kinnear Mfg Co, Columbus, Ohio
N. J. Foundry & Machine Co, 9 Murray st, N Y
Wilson, J Godfrey, 3 W 29th St, N Y

Drafting Tables.
Emerson Mfg. Co, F W, Rochester, N Y
Hein Furniture Co, Toledo, O

Draftsmen's Supplies. (see Instruments.

Drain Tile (see Pipe, Vitrified Clay.)

Dredging and Dredging Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bowers, A B San Francisco, Cal
Bucyrus Co, S Milwaukee, Wis
Edwards, Jos., & Co, 414 Water st, New York
Ellicott Machine Co, Baltimore, Md
Falcon, Jos, G, 1110 Ayres Court, Evanston, Ill
Featherstone Fdy & Mach Co, 348 N. Halsted, Chicago
Hayward Co, 97 Cedar st, New York
Lawrence Machine Co, Lawrence, Mass
Marion Steam Shovel Co, Marion, Ohio
Morris Machine Works, Baldwinsville, N Y
Mundy, J S, Newark, N J
Osgood Dredge Co, Albany, N Y
Smith, Theo., & Bro, Jersey City, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works Co Toledo

Drilling and Boring Machines (Portable).
Knight Mfg Co, Canton, Ohio
Philadelphia Pneumatic Tool Co, Philadelphia
Stow Flexible Shaft Co, 26th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y
(see also Pneumatic Tools; also Rock Drills.)

Drop Forgings.
Keystone Drop Forge Wks, 3001-63 Clearfield st, Phila

Drop Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Dry Docks (Marine Railway).
Crandall, H I, & Son Co, East Boston, Mass

Dryers (Cement).
American Process Co, 62 William st, New York
Bartlett, C O, & Snow Co, Cleveland, O
Crown Dryer Co, 129 Euclid ave, Cleveland
Cummer, F D, & Son Co, Cleveland, O
Ruggles Coles Engineering Co, 41 Cortlandt st, N Y
Simpson, H S, Mfg's Agt, Electric bldg, Cleveland
West Pulverizing Machine Co, Jersey City, N J

Dynamite (see Explosives).

Dynamos.
C & C Electric Co, Central R R bldg, New York
Coho & Co, H B, 111 Liberty st, New York
General Electric Co, Schenectady, N Y
Storey Motor & Electric Co, Harrison, N J
Stow Mfg Co, Binghamton, N Y
Westinghouse Electric & Mfg Co, Pittsburg, Pa

Economizers (Fuel).
Green Fuel Economizer Co, Matteawan, N Y
Broomell, Schmidt & Steacy Co, York, Pa

Electric Storage Batteries.
Electric Storage Battery Co, Philadelphia

Elevators.
Marine Engine & Machine Co, 1123 Broadway, N Y
Morse Elevator Works, Philadelphia
Otis Elevator Co, 71 Broadway, N Y

Employment Bureaus.
Boston Engineering Agency, 7 Water st, Boston
Brotherhood Steam Shovel & Dredge Engrs., Chicago
Cleveland Engineering Agency, Box 71, Sta. ?, Cleve
Engineering Agency, Monadnock blk, Chicago, Ill
Engineering Employment Bureau, Syracuse N Y
Hapgood Bureau, 257 Broadway, N Y
New York Engineering Agency, 35 Warren st, N Y

Engines. (Gas and Gasoline).
American Well Works, Aurora, Ill
Backus Water Motor Co, Newark, N J
Chase Machine Co, Cleveland
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Fairbanks, Morse & Co, Chicago, Ill
Mietz & Weiss, 128 Mott st, New York
New Era Iron Works Co, 37 Dale ave, Dayton, O
Otto Gas Engine Works, Philadelphia, Pa
Snow, T W, (Otto Engine) 360 Dearborn st, Chicago
Springfield Gas Engine Co, Springfield, O
Struthers-Wells Co, Warren, Pa
Temple Pump Co, 15th Place, Chicago
U. S. Wind Eng. & Pump Co, 20 Water st, Batavia, Ill
(see also Engines, Oil.)

Engines (Hoisting).
American Hoist & Derrick Co, St. Paul, Minn
Bacon, Earle C, 26 Cortlandt st, New York
Beatty, M, & Sons, Welland, Ont
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F., Machine Co, Ravenna, Ohio
Chase Machine Co, Cleveland
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Fairbanks, Morse & Co, Chicago, Ill
Flory, S, Mfg Co, Bangor, Pa
Hunt, C W., Co, Richmond Terrace, W N Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, New York
Monighan's Machine Works, 813 Carroll ave, Chicago
Mundy, J S, Newark, N J
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Vulcan Iron Works, Wilkesbarre, Pa
(see also Electric Hoists.)

Engines (Marine).
Buffalo Forge Co, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego N Y
Morris Machine Works, Baldwinsville, N Y
Otto Gas Engine Works, Philadelphia, Pa

Engines (Oil)
Aultman Co, Canton, Ohio
Mietz & Weiss, 128 Mott st, New York

Engines (Portable).
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Port Huron Engine Co, Port Huron, Mich

Engines (Steam).
Allis-Chalmers Co, Home Ins bldg, Chicago
Buffalo Forge Co, Buffalo, N Y
Erie Pump & Engine Co, Erie, Pa
Fairbanks, Morse & Co, Chicago
Featherstone Fdy & Mach Co, 348 N. Halsted, Chicago
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Lawrence Machine Co, Lawrence, Mass
Leffel, Jas, & Co, Springfield, O
Morris Machine Works, Baldwinsville, N Y
Southwark Foundry & Machine Works, Philadelphia
Sturtevant, B F, Co, Boston, Mass
Struthers, Wells & Co, Warren, Pa
Vulcan Iron Works, Wilkesbarre Pa

Engines (Traction).
Aultman Co, Canton, O
Heisler, Chas. L, Erie, Pa
Kelly O S Co Springfield, O
Port Huron Engine Co, Port Huron, Mich

ADVERTISERS' CLASSIFIED DIRECTORY.

Excavators and Excavating Machinery (see Ditching and Excavating Machinery and Steam Shovels.)

Exhaust Heads
Burt Mfg. Co, Akron, O

Expanded Metal.
Assoc Exp Metal Cos, Room 1209, 256 Broadway, N Y
General Fireproofing Co, Youngstown, O
Truss Metal Lath Co, 40 Gold st, New York
Youngstown Iron & Steel Roofing Co, Youngstown, O

Explosives.
Explosives Mfg Co, Elmira, N Y
Electric Exploder Co, 120 Liberty st, N Y
Kirk, Arthur & Son, Co, 210 Duquesne Way, Pittsburg

Faucets.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Feed Water Heaters.
Allis-Chalmers Co, Home Ins bldg, Chicago
Erie Machine Shops, Erie, Pa
Gem City Boiler Co, Dayton, O
Green Fuel Economizer Co, Matteawan, N Y
Harrison Safety Boiler Wks, 3166 N 14th st, Phila
Patterson, Frank L, & Co, 25 Church st, New York
Robertson, Jas L, & Sons 192 Fulton st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O

Feed Water Purifiers.
Industrial Water Co, 126 Liberty st, New York
Pittsburg Filter Mfg Co, Pittsburg, Pa
Smith, W B, Perth Amboy, N J

Fencing. (Wire).
American Steel & Wire Co, New York & Chicago
Jones National Fence Co, Columbus, O
Lamb Wire Fence Co Adrian, Mich

Fillet. (Leather).
Butler, A G, 284 Pearl st, New York

Filing Cases.
Art Metal Construction Co, Jamestown, N Y
General Fireproofing Co, Youngstown, O

Filter Presses.
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio

Filters.
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Deutsch, W M, 141 Broadway, N Y
Jacks n Filter Mfg Co, St Louis
Loomis-Manning Filter Co, Philadelphia, Pa
Malgren Filtration Co, 1310 Arch st, Philadelphia
N Y Continental-Jewell Co, 15 Broad st, N Y
Norwood Engineering Co, Florence, Mass
Pittsburg Filter Mfg Co, Pittsburg, Pa
Ross Valve Co, Troy, N Y
Scaife, Wm. B, & Sons Co, Pittsburg

Filters (Oil).
Burt Mfg Co, Akron, O
Robertson, Jas L, & Sons, 192 Fulton st, New York

Fire Department Supplies.
Morse, Andrew J, & Son, 140 Congress st, Boston, Mass

Fire Proofing.
Aberthaw Construction Co, Boston, Mass
Berger Mfg Co, Canton, O
Brossley, A H, Jr, 112 N Broad st, Philadelphia
Hennebique Patents 1123 Broadway, N Y
Metropolitan Fire Proofing Co, Trenton, N J
Roebling Construction Co, 21 Liberty st New York
St Louis Expanded Metal Fireproofing Co, St Louis
Wight, W N, & Co, 180 Fifth ave, New York
(see also Expanded Metal, also Concrete Steel Construction.)

Fire Proofing (Hollow Tile).
Maurer, Henry & Sons, 422 E 23d st, New York

Fire Proofing (Wood).
Electric Fireproofing Co, 19th st, and East River, N Y

Fittings (Flanged).
McLeod Co, 95 Liberty st, New York

Flexible Pipe Joint.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Flexible Shafts.
Stow Flexible Shaft Co, 16th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y

Flue Lining (Fire Clay).
Jackson, John H, Albany, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th sts, N Y
Syracuse Stoneware Co, Syracuse, N Y

Flush Tanks.
Pacific Flush Tank Co, 48 La Salle st, Chicago Ill

Fly Wheels.
Poole, Robert, & Son Co, Baltimore, Md

Forges (Portable).
Buffalo Forge Co, Buffalo, N Y
Roots, P H & F M, Co, Connersville, Ind
Tate, Jones & Co, Pittsburg Pa

Forgings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Baker, Jas H, Mfg Co, 508 Park bldg, Pittsburg, Pa
Brill, J G, Co, Philadelphia, Pa
Cleveland City Forge & Iron Co, Cleveland
Keystone Drop Forge Wks, 2001-43 Clearfield st, Phila
Pennsylvania Steel Co, Steelton, Pa

Friction Clutches.
Brown Hoisting Machinery Co, Cleveland
Dodge Mfg Co, Mishawaka, Indiana
Link Belt Engineering Co, Nicetown, Philadelphia
Smith, S Morgan, Co, York, Pa

Frogs, Switches and Crossings.
Elliot Frog & Switch Co, East St. Louis, Ill
N Y Switch & Crossing Co, Hoboken, N J
Pennsylvania Steel Co, Steelton, Pa
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Fuel Economizers (see Economizers).

Furnaces (Gas).
American Gas Furnace Co, 23 John st, New York

Furnaces (Oil).
Petroleum Iron Works, Washington, Pa
Tate, Jones & Co, Empire bldg, Pittsburg

Furniture (Steel).
General Fireproofing Co, Youngstown, O

Gages (Steam).
Crosby Steam Gage & Valve Co, Boston

Galvanized Iron and Steel.
Am Sheet Steel Co Battery Park bldg, New York

Galvanizing Kettles.
Columbian Boiler Co Columbiana, Ohio
Enterprise Boiler Co, Youngstown, Ohio

Garbage Dump Carts (see Wagons and Carts).

Garbage Furnace.
Morse-Boulger Destructor Co, 39 Cortlandt st, N Y
Smith-Siemens Garbage Furnace, 141 Broadway, N Y

Gas Fittings.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Gas Holders.
Wood, R D, & Co, 400 Chestnut st, Philadelphia
(see also Stand-Pipes and Tanks.)

Gas Machinery.
American Gas Furnace Co, 23 John st, New York
Gas Machinery Co, Cleveland, O
National Drill & Mfg Co, Chicago, Ill
Norwalk Iron Works, South Norwalk, Conn
Roots, P H, & F M, Co, Connersville, Ind
Wood, R D, & Co, Philadelphia, Pa

Gas Works.
Gas Machinery Co, Cleveland, Ohio

Gaskets.
McCord & Co, 1445 Old Colony bldg, Chicago
U S Mineral Wool Co, 143 Liberty st, New York

Gates (Railway).
Jones National Fence Co, Columbus, O
Pneumatic Signal Co, 1122 Broad-Exchange bldg, N Y

Gearing.
Caldwell, H W, & Son Co, Chicago
Morse Elevator Works, Philadelphia
Poole, Robert, & Son Co, Baltimore, Md
Smith S. Morgan, Co, York, Pa

Gear-Wheels.
Taylor Iron & Steel Co, High Bridge, N J

Gloves (Hand Made).
Luther, J P, Glove Co, 926 Pearl St, Berlin, Wis

Governors (Water Wheel).
Lombard Governor Co, 36 Whittier st, Boston
Replogle Governor Works, Chestnut st, Akron, O

Graders.
Austin Mfg Co Manhattan bldg, Chicago
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
Shuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Grain Elevators (see Tanks, grain storage.)

Granite (see Stone also Paving Blocks).

Graphite.
Detroit Graphite Mfg Co, Detroit, Mich
Dixon Jos, Crucible Co, Jersey City, N J
Goheen Mfg Co, Canton, Ohio
Internat'l Acheson Graphite Co, Niagara Falls, N Y

Grate Bars.
Dobbie Foundry & Mach Co, 138 Dey st, N Y
Robertson, Jas L, & Sons, 192 Fulton st, New York

Greenhouses.
National Skylight & Const'n Co, 120 Liberty st, N Y
Plenty, Josephus, Jersey City, N J

Hanger (Joist).
Clark Co, W J, Salem, Ohio
Columbian Hardware Co, Cleveland, Ohio
Duplex Hanger Co, Cleveland, Ohio

Headlights (Locomotive).
Brill, J G, Co, Philadelphia
Dressel Ry Lamp Works, 3876 Park ave, New York
Railroad Supply Co, Bedford bldg, Chicago

Heating and Ventilating (Steam & Hot Water
American Blower Co, Detroit
Am. District Steam Heating Co, Lockport, N Y
Keeler, E, Co, Williamsport, Pa
Mass. Fan Co., Waltham, Mass

Hoisting Engines (see Engines, Hoisting).

Hoisting and Conveying Machinery.
Aultman Co, Canton, O
Beatty, M, & Sons, Welland, Ont
Bartlett, C O, & Snow Co, Cleveland, O
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F, Machine Co, Ravenna, O
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Cresson Co Geo V, Philadelphia
Carson Trench Machine Co, Boston, Mass
Dodge Mfg Co, Mishawaka, Indiana
Exeter Machine Works, Pittsburg, Pa
Garland, M, Co, Bay City, Mich
Hunt, C W, Co, Richmond Terrace, W N Brighton NY
Jeffrey Mfg Co, Columbus, Ohio
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Lambert Hoisting Engine Co, Newark, N J
Link Belt Engineering Co, Nicetown, Philadelphia
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, N Y
Pawling & Harnishfeger, 167 Clinton st, Milwaukee
Robins Conveying Belt Co, 14-21 Park Row, N Y
Steel Cable Engineering Co, 120 Liberty st, New York
Trenton Iron Co, Trenton, N J
Union Iron Works, Hoboken, N J
United Telpherage Co, 20-22 Broad st, N Y

Hoists (Electric).
Hunt, C W, Co, Richmond Terrace, WN Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg. Co, 96 Liberty st, N Y
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Rawson & Morrison Mfg Co, Cambridgeport, Mass
United Telpherage Co, 20-22 Broad st, New York

Hoists (Pneumatic).
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 1212-15 Herman bldg, Milwaukee

Hooks (Hoist, Grab, etc.)
Baker, Jas. H, Mfg Co, 503 Park bldg, Pittsburg
Roebling's, John A. Sons Co, Trenton, N J

Hose (Metal).
Moore Chas. C, & Co, 32 First st, San Francisco

Hose (Rubber).
McKiernan Drill Co, 170 Liberty st, N Y

Hose (Suction).
Edson Mfg Co, 255 Atlantic ave, Boston

Hydrants and Valves.
Bourbon Copper & Brass Works, Cincinnati, O
Cayuta Wheel & Foundry Co. Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Clow, J B & Sons, Lake & Franklin sts. Chicago
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Drummond, M J, & Co, 192 Broadway, N Y
Fox, John & Co, 253 Broadway, N Y
Kennedy Valve Mfg Co, 50 Beekman st, N Y
Loetzer Valve & Mfg Co, Towanda, Pa
Ludlow Valve Mfg Co, Troy, N Y
McLean, John, 298 Monroe st, New York
Millar, Chas. & Son, Co, Utica, N Y
Norwood Engineering Co, Florence, Mass
Reading Foundry Co, Ltd, Reading, Pa
Ross Valve Co, Troy, N Y
Smith, A P, Mfg Co, Newark, N J
Thompson, J, & Co, Philadelphia, Pa
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Jacks.
Watson-Stillman Co, 210 E. 43d st, New York

Hydraulic Leather Packing.
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Detroit Leather Specialty Co, 900 Michigan av, Detroit

Hydraulic Machinery.
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Deming Co, Salem, Ohio
Pelton Water Wheel Co, 134 Main st, San Francisco
Watson-Stillman Co, 210 E 43d st, New York
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Presses.
Watson-Stillman Co, 204 E 43d st, New York
Wood, R D & Co, 400 Chestnut st, Philadelphia

Hydraulic Rams.
Pelton Water Wheel Co, 134 Main st, San Francisco

Ice and Refrigerating Machinery.
Featherstone Foy & Mach Co. 348 N Halsted, Chicago

Indicators (Steam Engine).
Ashcroft Mfg Co, 85 Liberty st, New York
Crosby Steam Gage & Valve Co, Boston, Mass
Robertson, Jas L, & Sons, 192 Fulton st, N Y

Injectors.
Hayden & Derby Mfg Co. 85 Liberty st, New York
Lunkenheimer Co. Cincinnati, Ohio

Instruments (Engineering, Drafting).
Ainsworth, Wm. & Sons, Denver Colorado
Albrecht, C. R., 62 Fulton st, New York
Aloe, A S, Co, 414 N Broadway, St. Louis, Mo
Altenseder, Theo, & Sons, 945 Ridge ave, Phila, Pa
Archts' & Engrs' Supply Co, 1011 Walnut st, Kan. City
Beckman, L, 57 Adams st, Toledo, Ohio
Berger, C L, & Sons, 37 Williams st, Boston, Mass
Brandis, F E, Sons & Co, 814 Gates ave, Brooklyn, NY
Brown & Sharpe Mfg Co, Providence, R I
Buff & Buff Co, J P Station, Boston, Mass
Dietzgen, Eugene, Co, 181 Monroe st, Chicago
Engineers' Instrument Exchange, Scranton, Pa
Gurley, W & L E, Troy, N Y
Hardtmuth, L & C, 49 Barclay st, New York
Heller & Brightly Spring Garden st & Ridge av, Phila
Hetherschel Mfg Wks, Grand Rapids, Mich
Keuffel & Esser Co, 127 Fulton st New York
Knight, F C, & Co, 400 Locust ave, Philadelphia Pa
Koelsch & Co, 138 Fulton st, New York
Ledder, G G, 362 School st, Boston
Lietz, A, Co, 422 Sacramento st, San Francisco, Cal
Mahn & Co. 300-302 Olive st, St. Louis
Pfister, Herm, 428 Plum st, Cincinnati, O
Prince, L M, 108 West 4th st, Cincinnati, O
Queen & Co, Inc, Philadelphia, Pa
Saegmuller, G N, Washington, D C
Sala, J C, 429 Montgomery st, San Francisco
Schwencke, Kirk & Co, 26 Church st, New York
Soltmann, E G, 123 E 42d st, New York
Stackpole & Bro, 39 Fulton st, New York
Stanley, W F, & Co, Great Turnstile, Holborn, London
Steckenreiter Mfg Co, Chicago, Ill
Ulmer, J C, & Co, 224 Champlain st, Cleveland, Ohio
Universal Drafting Mach Co, Blackstone bldg, Cleve
Weber, F, & Co, Philadelphia
Williams, Brown & Earle, 918 Chestnut st, Phila
Wittstock, P & R, Berlin, S. 59, Germany
Young & Sons, 43 N. 4th st, Philadelphia

Insulating Materials.
Standard Paint Co, 103 William st, New York

Iron Work (Ornamental).
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia Pa
Brooks, T H, & Co, Cleveland, O
Rogers Iron Co, Springfield, O
Schrieber, L, & Sons Co, Cincinnati, O
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Walton Iron Co. Cincinnati, O

Iron Work (Structural).
(see Structural Steel and Iron Work.)

Jacks
Duff Mfg Co, Allegheny, Pa
Norton, A O, 286 Congress st, Boston
Watson-Stillman Co, 210 E 43d st, N Y

Labor (Italian).
Italo-American Trust Co, 725 Carpenter st, Phila
Yuzzolino, N, 73 Mulberry st, New York

Laboratories (Chemical and Testing).
Booth, Garrett & Blair, Philadelphia, Pa
Hunt, R W, & Co, Rookery, Chicago
McKenna, Chas F, 221 Pearl st, New York
Pittsburg Testing Laboratory, Pittsburg, Pa
Riehle Bros. Test & Machine Co, Philadelphia, Pa

Lamps (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Lathing (Metallic).
Berger Mfg Co, Canton O
General Fireproofing Co, Youngstown, O
(see also Fireproofing.)

Lead (Pig).
Millar, Chas & Son Co, Utica, N Y
Ogden, J Edward Co, 147 Cedar st, New York

Lead Furnaces.
McLean, John, 298 Monroe st, New York
Ogden, J Edward Co, 147 Cedar st, New York
Union Iron Works, Hoboken, N J

Light (Contractors').
Kilson Hydro-Carbon Htg & Lighting Co, Phila
Macleod & Co, Walter, Cincinnati Ohio
Wells Light Co, 44 Washington st, New York

Locomotive Tires.
Latrobe Steel Co, 1200 Girard bldg, Philadelphia, Pa

Locomotives.
American Locomotive Co, 25 Broad st, New York
Baldwin Locomotive Works, Philadelphia, Pa
Heisler, Charles L, Erie, Pa.
Porter, H K Co .Pittsburg, Pa.

Locomotives (Contractors').
Avery, C F, 114 Liberty st, New York
Byers, John F, Machine Co, Ravenna, Ohio
Fitz-Hugh & Co, Chicago and New York
Porter, H K, Co, Pittsburg, Pa
Vulcan Iron Works, Wilkesbarre, Pa

Locomotives (Electric and Mining).
Baldwin Locomotive Works, Philadelphia, Pa
Brill, J G, Co, Philadelphia
General Electric Co, Schenectady, N Y
Jeffrey Mfg Co, Columbus, O
Koppel, Arthur, 66 Broad st, New York
Patton & Co, J. R., House bldg, Pittsburg, Pa
Porter, H K, Co, Pittsburg, Pa
Westinghouse Electric & Mfg Co, Pittsburg

Locomotive Headlights.
(see Headlights, Locomotives.)

Locomotives (Second hand).
(See Railway Equipment, Dealers.)

Lubricants.
Dixon, Jos, Crucible Co, Jersey City, N J

Lubricators.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Lumber (Creosoted).
American Creosote Works, Ltd, New Orleans, La
Atlantic Creo & Wood Pres Wks, 10 Bridge St, N Y
Carbolineum Wood Pres Co, 13 Park Row, N Y
International Creosoting & Con Co, Galveston, Tex
Norfolk Creosoting Co, Norfolk, Va
Wyckoff Pipe & Creosoting Co, Portsmouth, Va
(see also Creosoting)

Lumber (Dock).
Vanderbilt & Hopkins, 126 Liberty st, New York

Machinery (Second hand).
Braden, Jas A, 514 Park Row bldg, New York
Briggs, Marvin, 12 Broadway, New York
Carlin Machy & Supply Co, 186 Lacock st, Allegheny
Chicago House Wreck Co, W. 35th & Iron sts, Chicago
Contractors' Supply Co, 1531 Monadnock blk Chicago
Contractors' Plant Depot, 29 William st, New York
Donaldson & Newton, 421 Chestnut st, Philadelphia
Driscoll, J. T., McCormick bldg, Chicago
Etros Co, Chas, Bayonne, N J
Everson & Co, F W, Roxbury Crossing, Mass
Fitz-Hugh Co, Monadnock block, Chicago
Grant & Harper Machy Co, Park Row bldg, New York
Low, Edgar S. Co, Empire bldg, Pittsburg
Saxton, J C, 18 Broadway, New York
Troy Public Works Co, 1 Mann bldg, Utica, N Y
Ulman, Jacob, 44 Lloyd st, Buffalo, N Y
Whitney, O R, 39 Cortlandt st, New York
Young, E B, & Sons, Titusville, Pa

Machine Tools.
Manning, Maxwell & Moore, 85 Liberty st, New York
Niles Tool Works Co, 136-138 Liberty st, New York

Mail Chutes.
Cutler Mfg Co, Rochester, N Y

Manholes and Covers.
(See Sewer and Street Castings; also Castings, Iron.)

Measure (Rotary).
Steckenreiter Mfg Co, 98 Lake st, Chicago, Ill

Measuring Tapes. (Steel).
Chicago Steel Tape Co, 508 Temple Court, Chicago
Johnston, Robt, Wilkesbarre, Pa
Keuffel & Esser, 127 Fulton st, New York
Lufkin Rule Co, Saginaw, Mich
Starrett, L S, Co, 86 Crescent st, Athol, Mass

Merchandise Checks.
Am. Ry supply Co, 24 Park Place, New York

Mechanical Draft.
American Blower Co, Detroit
Buffalo Forge Co, Buffalo, N Y
Sturtevant, B F, Co, Boston, Mass
(see also Blowers.)

Metal Hose (See Hose, Metal).

Meters (Current).
Berger, C L. & Sons, 9 Province st, Boston, Mass

Meters (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Meters (Gas).
Pittsburg Meter Co East Pittsburg, Pa

Meters (Water).
Buffalo Meter Co, 363 Washington st, Buffalo
Builders Iron Foundry, Providence, R I
Cole, E S, 135 Park Row bldg, New York
Hersey Mfg Co, Boston, Mass
Neptune Meter Co, 253 Broadway, New York
Pittsburg Meter Co, East Pittsburg, Pa
Thomson Meter Co, 79 Washington st, Brooklyn, N Y
Union Water Meter Co, Worcester, Mass
Worthington, Henry R, Brooklyn, N Y

Mixing Machinery.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Diamond Rock Drill Co, 95 Liberty st N Y
Blanton E A, Jr, The Bourse, Philadelphia
Bradley Pulverizer Co, 92 State st, Boston, Mass
Bucyrus Co, S. Milwaukee, Wis
Fairbanks, Morse & Co, Chicago
General Electric Co, Schenectady, N Y
Jeffrey Mfg. Co, Columbus, O
Lidgerwood Mfg Co, 96 Liberty st, N Y
Marion Steam Shovel Co, Marion, Ohio
Rand Drill Co, 128 Broadway, N Y
Sullivan Machinery Co, 125 Adams st, Chicago, Ill
Vulcan Iron Works, Wilkesbarre, Pa

Mortar Mixers.
Drake, C T, 300 W Jackson Boulevard, Chicago

Motors (Electric). (see Dynamos.)

Non-Conducting Covering.
U S Mineral Wool Co, 143 Liberty st, New York

Nut Locks.
National Elastic Nut Co, Milwaukee, Wis

Oil Burners.
Hammel, C A, 120 Fifth st, Los Angeles, Cal

Oil Cups.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Oil Mill Machinery.
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio

Oilless Bearings.
No Am Metaline Co, 6 West ave, Long Island City, N

Ore Handling Machinery.
(see Coal and Ore Handling Machinery.)

Packing.
Detroit Leather Specialty Co, 900 Michigan av, Detro
Robertson, Jas L, & Sons, 192 Fulton st, New York

Painting Machines (Pneumatic).
Hook, F E, Hudson, Mich
Macleod & Co, Walter, Cincinnati, O

Paint Pigment.
Internat'l Acheson Graphite Co, Niagara Falls N Y

Paints.
Carbolineum Wood Pres Co, 13 Park Row, N Y
Chilton Paint Co, 69 Cortlandt st, N Y
Detroit Graphite Mfg Co, Detroit, Mich
Dixon, Jos, Crucible Co, Jersey City, N Y
Goheen Mfg Co, Canton, Ohio
Heath & Milligan Mfg Co, Chicago
Hook, F E, Hudson, Mich
Michigan Paint Co, 65 Woodland ave, Cleveland, O
National Paint Works, Williamsport, Pa
Rinald Bros, 1142 N Hancock st, Philadelphia
Sicilian Asphalt Paving Co, Times bldg, New York
Standard Paint Co, 103 William st, New York
Toch Bros, New York

Paint (Cold Water).
Bird & Co, J A & W, 10 Well st, Boston

Patent Attorneys.
Hill, Thos A, 261 Broadway, New York
Straley, Hasbrouck & Schloeder, 257 Broadway, N

Patterns (Wood).
Balkwill Pattern Works, 970 Hamilton st. Cleveland

Pattern Letters.
Butler, A G, 284 Pearl st, New York

Paving (Bituminous-Macadam).
Warren Bros Co, 98 Federal st, Boston

Paving Blocks (Stone).
Leopold, J, & Co, 18 Broadway, New York
(See also Stone.)

Paving Brick (see Brick).

Perforated Metals.
Harrington & King Perforating Co, Chicago, Ill

Pile Driving Machinery.
American Hoist & Derrick Co, St. Paul, Minn
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee Wis
Contractors' Plant Mfg Co, Buffalo, N Y
Lidgerwood Mfg Co, 96 Liberty st, N Y
Mundy, J S, Newark, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago, Ill

Pile Hammers.
Vulcan Iron Works, Chicago, Ill

Piling.
American Creosote Works, Ltd, New Orleans, La
Atlantic Creosot. & Wood Pres. Co, 10 Bridge st, N Y
Eppinger & Russell Co, 66 Broad st, New York
Meredith J P, Memphis, Tenn
New Orleans Wood Preserving Works, New Orleans
Norfolk Creosoting Co, Norfolk, Va
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Pipe (Cast Iron).
Builders Iron Foundry, Providence, R I
Byers, John F, Machine Co, Ravenna, Ohio
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Dimmick Pipe Co, Birmingham, Ala
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Fox, John, & Co, 253 Broadway, New York
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co, Utica, N Y
Reading Foundry Co, Ltd, Reading, Pa
Snow, T W, 390 Dearborn st, Chicago, Ill
U S Cast Iron Pipe & Fdry Co, 217 La Salle st, Chicago
Warren Foundry & Machine Co, 160 Broadway, N Y
Wood, R D, & Co, Philadelphia, Pa

Pipe (Culvert). See Pipe, Vitrified Clay.

Pipe (Lead).
Millar, Chas, & Son Co, Utica, N Y

Pipe (Riveted Steel).
Carroll-Porter Boiler & Tank Co, Pittsburg, Pa
Columbiana Boiler Co, Columbiana, Ohio
Gillespie, T A, Co, Pittsburg, Pa
Keeler, E, Co, Williamsport, Pa
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg Pa
Means & Fulton Iron Works, Birmingham, Ala
Pelton Water Wheel Co, 134 Main st, San Francisco
Scaife, Wm B, & Sons Co, Pittsburg, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Warren City Tank & Boiler Works, Warren, O
Weigele Riveted Steel Pipe Works, Denver, Colo

Pipe (Spiral Riveted).
Am Spiral Pipe Works, 64-66 Wabash ave, Chicago

Pipe (Vitrified Clay).
American Sewer Pipe Co, Pittsburg, Pa
Blackmer & Post Pipe Co, St Louis, Mo
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Evens & Howard Fire Brick Co, St Louis, Mo
Illinois Mfg Co, Macomb, Ill
Jackson, John H, Albany, N Y
Millar, Chas, & Son Co, Utica, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill.
New York Pottery Co, 12th ave & 36th st, N Y
Robinson Bros & Co, Akron, O
Syracuse Stoneware Co, Syracuse, N Y

Pipe Wooden).
American District Steam Co. Lockport, N Y
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Pipe (Wrought Iron).
Crane Co, Chicago, Ill
Fox, John & Co, 253 Broadway, New York
National Tube Co, Pittsburg
Pittsburg Pipe & Iron Co, Allegheny, Pa
California Redwood Pipe Co, Los Angeles

Pipe Casing.
U S Mineral Wool Co, 143 Liberty st, New York

Pipe Cutting and Threading Machines.
Saunder's, D, Sons, Yonkers, N Y

Pipe Fittings and Flanges.
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Latrobe Steel Co, Girard bldg, Philadelphia
National Tube Co, Pittsburg
Thompson, J, & Co, Van Horn & Sophia sts, Phila
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Joint (High Pressure).
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Jointers.
Watkins, Thos, Johnstown, Pa

Pipe Laying (Submarine).
Falcon, Jos G, 1110 Ayers Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich
Low Wrecking & Diving Co, 2 Coenties Slip, N Y

Pipe Line Supplies.
Ogden, J Edward Co, 147 Cedar st, New York

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Pipe Tapping Machines (See Tapping Machines)

Plaster.
Rock Plaster Co, 11 Broadway, N Y

Plows (see Scrapers and Plows).

Plumbers' Supplies.
Campbell, J G, Brass Works, Cascade st, Erie, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Millar, Chas, & Son, Utica, N Y

Pneumatic Tools.
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Columbus Pneumatic Tool Co, Columbus, Ohio
Helwig Mfg Co, St Paul, Minn
Philadelphia Pneumatic Tool Co, Philadelphia
Slocomb, F F, & Co, Wilmington, Del
(see also Riveting Machines)

Poles (Wooden)
(see Piling.)

Portable Light (see Light, Contractors').

Portable Tracks.
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Power Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Power Transmission (Electric).
General Electric Co, Schenectady, N Y
Leffel, Jas, & Co, Springfield, O
Felton Water Wheel Co, 134 Main st, San Francisco
Westinghouse Electric & Mfg Co, Pittsburg

Power Transmission (Rope).
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Case Mfg Co, Columbus, O
Cresson, Geo V, Co, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Phila

Press (Artificial Stone).
Palmer, Noyes F, 130 Snediker ave Brooklyn, N Y

Pressure Gages (Recording)
Bristol Co, Waterbury, Conn

Pressure Regulators
d'Estè, Julian, Co, 15 Canal st, Boston
Foster Engineering Co, Newark, N J
Union Water Meter Co, Worcester, Mass

Pulleys.
Case Mfg Co, Columbus, O
Dodge Mfg Co, Mishawaka, Indiana

Pulverizers (Ore and Cement).
Allis-Chalmers Co, Home Ins bldg, Chicago
Bradley Pulverizer Co, 92 State st, Boston, Mass
Clark J C, Box 525, Atlanta, Ga
Cresson, Geo V, Co, Philadelphia
Kent Mill Co, 170 Broadway, New York
Newell Mfg Co, 149 Broadway, New York
Smidth, F L & Co, 66 Maiden lane, New York
West Pulverizing Machine Co, Jersey City, N J

Pumps and Pumping Machinery.
Allis-Chalmer Co, Home Ins bldg, Chicago
American Well Works, Aurora, Ill
Barr Pumping Engine Co, Philadelphia
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Bonnot Co, Canton, Ohio
Cameron, A S, Steam Pump Works, New York
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Cook Well Co, St Louis
d'Auria Pumping Engine Co, 941 Drexel bldg, Phila
Davidson, M T, 52 Keap st, Brooklyn, N Y
Dean Bros' Steam Pump Works, Indianapolis, Ind
Deane Steam Pump Co, Holyoke, Mass
Deming Co, Salem, Ohio
Downie Pump Co, Downieville, Pa
Edwards, Jos, & Co, 414 Water st, New York
Epping-Carpenter Co, Pittsburg
Fairbanks, Morse & Co, Chicago
Flint & Walling Mfg Co, Kendallville, Ind
Goulds Mfg Co, Seneca Falls N Y
Guild & Garrison, So 10th st, Brooklyn, N Y
Hill Machine Co, Anderson, Ind
Heisler Pumping Engine Co, Erie, Pa
Knowles Steam Pump Works, 91 Liberty st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati, O
Lake City Engineering Co, Erie, Pa
Lawrence Machine Co, Lawrence, Mass
McGowan, John H, Co, Cincinnati, Ohio
Norwalk Iron Works Co, South Norwalk, Conn
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Quimby, Wm E, 141 Broadway, N Y
Roots, P H & F M, Co, Connersville, Ind
Scranton Steam Pump Co, 151 Franklin ave, Scranton
Snow Steam Pump Works, 120 Liberty st, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Valle Co, Dayton, Ohio
U S Wind Engine & Pump Co, Batavia, Ill
Wood, P K, 209 No Main st, Los Angeles, Cal
Wood, R D, & Co, Philadelphia
Worthington, Henry R, Brooklyn, N Y

Pumps (Air Lift).
Bacon Air Lift Co, 100 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
Pneumatic Engineering Co, 128 Broadway, N Y

Pumps (Artesian Well).
Davidson, M T, 141 Broadway, New York
Downie Pump Co, Downieville, Pa
Wood, P K, 209 No Main st, Los Angeles, Cal

Pumps (Centrifugal).
Baldwinsville (N Y) Centrifugal Pump Works
Bucyrus Co, South Milwaukee, Wis
Edwards, Jos, & Co, 414 Water st, New York
Erie Pump & Engine Co, Erie, Pa
Kingsford Foundry & Machine Works, Oswego, N Y
Lake City Engineering Co, Erie, Pa
Lawrence Machine Co, Lawrence, Mass
Morris Machine Works, Baldwinsville, N Y
Temple Pump Co, 15th Place, Chicago
Wood, R D, & Co, Philadelphia

Pumps (Diaphragm).
Boston & Lockport Block Co, 160 Commercial st, Boston
Edson Mfg Co, 255 Atlantic ave, Boston

Pumps (Electric).
Davidson, M T, 141 Broadway, New York
Deming Co, Salem, Ohio
Goulds Mfg Co, Seneca Falls, N Y
Quimby, Wm. E, 141 Broadway, New York
Stilwell-Bierce & Smith-Valle Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Pumps (House Service).
Quimby, Wm E, 141 Broadway, New York

Pumps (Mining)
Davidson, M T, 141 Broadway, New York
Goulds Mfg Co, Seneca Falls, N Y
Pneumatic Engineering Co, 128 Broadway, N Y
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Snow Steam Pump Works, 120 Liberty st, New York
Stilwell-Bierce & Smith-Valle Co, Dayton, O
Wood, P K, 209 No Main st, Los Angeles, Cal

Punching Tools.
Pels & Co, Henry, 64-68 Broad st, New York

Pyrometers.
Bristol Co, Waterbury, Conn

Quarrying Machinery.
Flory, S, Mfg Co, Bangor, Pa
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, New York
Rand Drill Co, 128 Broadway, New York
Sullivan Machinery Co, 135 Adams st, Chicago
Tyrone Foundry & Machine Co, Tyrone, Pa

Rack Railways.
Hildenbrand, Wm, 1 Broadway, New York

Rail Fastenings.
Continuous Rail Joint Co of America, Newark, N J
National Elastic Nut Co, Milwaukee
N Y Rail Insulation & Equip Co, 300 Market st, Newark
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rail Joints.
Bonzano Rail Joint Co, 22 South 15th st, Philadelphia
Continuous Rail Joint Co of America, Newark, N J
McCown & Torley Co, Pittsburg, Pa
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rails (Relaying).
Donaldson & Newton, 421 Chestnut st, Philadelphia
Grant & Harper Mach'y Co, Park Row bldg, New York
Hyde Bros, 302 Lewis bldg, Pittsburg
Johnson, Chas F, 90a Ellicott square, Buffalo
Robinson & Orr, 419 Wood st, Pittsburg
Tallon, C J, 308 Market st, San Francisco

Rails (Steel).
Baumgarten & Bro, A F, Pittsburg, Pa
Buffalo Steel Co, Tonawanda, N Y
General Supply & Const'n Co, 8-10 Bridge st, N Y
Koppel, Arthur, 68 Broad st, New York
Pennsylvania Steel Co, Steelton, Pa

Railway Equipment (Dealers).
Apex Equipment Co, 11 Broadway, New York
Fitz-Hugh & Co, Monadnock bldg, Chicago
Low, Edgar S, Co, Empire bldg, Pittsburg
Wales Co, Ætna bldg, Cincinnati
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Watson, Benjamin, 66 Beaver st, New York

Railway Signals (Pneumatic)
Pneumatic Signal Co, Broad-Exchange bldg, N Y

Railway Ties.
American Creosote Works, Ltd, New Orleans La
New Orleans Wood Preserving Works, New Orleans
Vanderbilt & Hopkins, 136 Liberty st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Railway Track Specialties.
Diamond State Steel Co, Wilmington, De
N Y Switch & Crossing Co, Hoboken, N J
Railroad Supply Co, Bedford bldg, Chicago
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Railways (Industrial).
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Riveting Machines.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Allen, John F, 370 Gerard ave, New York
General Pneumatic Tool Co, Montour Falls, N Y
Manning, Maxwell & Moore, 85 Liberty st, New York
Rand Drill Co, 128 Broadway, New York
Wood, R D, & Co, 400 Chestnut st, Philadelphia Pa
(see also Pneumatic Tools.)

Road Rollers and Machinery.
Acme Road Machinery Co, Frankfort, N Y
Austin Mfg Co, F C, Harvey, Ill
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Erie Machine Shops, Erie, Pa
Goods Roads Machinery Co, Kennett Square, Pa
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Heisler, Chas L, Erie, Pa
Huber Mfg Co, Marion, Ohio
Iroquois Iron Works, 178 Walden ave, Buffalo, N Y
Kelly-Springfield Road Roller Co, Springfield, O
Port Huron Engine Co, Port Huron, Mich
Scholl, Julian, & Co, 136 Liberty st, New York
Shuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Rock and Ore Crushers.
Acme Road Machinery Co, Frankfort, N Y
Allis-Chalmers Co Home Ins bldg, Chicago
Austin Mfg Co, F C, Harvey, Ill
Aultman Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Climax Road Machine Co, Marathon, N Y
Cresson Co, Geo V, Philadelphia
Farrel Foundry & Machine Co, 26 Cortlandt st, N Y
Good Roads Machinery Co, Kennett Square, Pa
Scholl, Julian, & Co, 136 Liberty st, New York
Smidth, F L & Co, 66 Maiden lane, New York
Sturtevant Mill Co, 108 Clayton st, Boston
Tyrone Foundry & Machine Co, Tyrone, Pa
Western Wheeled Scraper Co, Aurora, Ill

Rock Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Davis Calyx Drill Co, 128 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
McKiernan Drill Co, 170 Liberty st, N Y
Rand Drill Co, 128 Broadway, New York
Rogers, John M, Gloucester City, N J
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Wood Drill Works, 30 Dale ave, Paterson, N J

Rolling Doors, Partitions, etc. (Steel).
Kinnear Mfg Co, Columbus, Ohio
Wilson, J G, 3 W 29th St, New York

Roofing.
Standard Paint Co, 103 William st, New York

Roofing (Corrugated).
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Scaife, W B, & Sons Co, Pittsburg

Rope (Manila).
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Smith, S Morgan, Co, York, Pa

Scales (Weighing).
Fairbanks, Morse & Co, Chicago
Richardson Scale Co, 15 Park Row, New York

Schools (Correspondence).
Am. School of Armour Inst of Tech. Chicago
Penn. Corres. Schools, Hamilton bldg, Pittsburg
(For Directory of Engineering Schools see p. 4.)

Scrapers and Plows.
Austin Mfg Co, Manhattan bldg, Chicago
Contractors' Plant Mfg Co, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Shuart Scraper Co, Oberlin, O
Smith & Sons Mfg Co, Kansas City, Mo
Syracuse Chilled Plow Co, Syracuse, N Y
Western Wheeled Scraper Co, Aurora, Ill

Screens (Stone and Sand).
Allis-Chalmers Co, Home Ins bldg, Chicago
Aultman Co, Canton, O
Climax Road Machine Co, Marathon, N Y
Harrington & King Perforating Co, Chicago, Ill
Taylor Iron & Steel Co, High Bridge, N J

Screens (Water-Works).
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Seamless Drawn Tanks and Tubes.
National Tube Co, Pittsburg

Separators (Oil and Steam).
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Robertson, Jas L, & Sons, 192 Fulton st, New York

Sewage Disposal.
Cameron Septic Tank Co Monadnock block, Chicago

Sewer Braces.
Dunn Mfg Co, Pittsburg, Pa
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind

Sewer and Street Castings.
Permanent Mfg Co, Am Trust Bldg, Cleveland, O
Sessions Foundry Co, Bristol, Conn
(see also Castings, Iron.)

Sewer Pipe (see Pipe, Vitrified)

Shafting.
Case Mfg Co, Colmbus, O
Cresson, Geo V, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Poole, Robt, & Son Co, Baltimore, Md

Sheet Iron Work.
Am Sheet Steel Co, Battery Park bldg, New York
Petroleum Iron Works Co, Washington, Pa
Scaife, Wm B, & Sons Co, Pittsburg

Sheet Steel.
Am Sheet Steel Co, Battery Park bldg, New York
American Steel & Wire Co, New York & Chicago

Shutters (Fire Proof).
Kinnear Mfg Co, Columbus, Ohio

Skylights.
National Skylight & Const'n Co, 120 Liberty st, N Y
Plenty, Josephus, Jersey City, N J
Valle & Young, Baltimore, Md

Sluice Gates.
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Smoke Stacks (see Stand-Pipes and Tanks).

Speed Governors.
Foster Engineering Co, Newark, N J

Stamp Mills.
Allis-Chalmers Co, Home Ins bldg, Chicago

Stand-Pipes and Tanks.
Caldwell, W E, Co, 200 East Main st, Louisville, Ky
Chicago Bridge & Iron Co, Chicago
Columbiana Boiler Co, Columbiana, O
Du Bois Iron Works, Du Bois, Pa
Enterprise Boiler Co, Youngstown, O
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Co, East Boston, Mass
Keeler, E, Co, Williamsport, Pa
King Bridge Co, Cleveland, O
Means & Fulton Iron Works, Birmingham, Ala
North Penn Iron Co, 3d and Sedgley ave, Phila
Petroleum Iron Works Co, Washington, Pa
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, Wm B, & Sons Co, Pittsburg
Sharon Boiler Works, Sharon, Pa
Smith, Theo, & Sons Co, Jersey City, N J
Snow, T W, 360 Dearborn st, Chicago
Strutners-Wells Co, Warren, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Tippett & Wood, Phillipsburg, N J
U S Wind Engine & Pump Co, Batavia, Ill
Walsh, W J, Holyoke, Mass
Warren City Tank & Boiler Works, Warren, O
Wood, R D & Co, Philadelphia, Pa

Steam Shovels.
Austin, Mfg Co, Manhattan bldg, Chicago
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee, Wis
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Marion Steam Shovel Co, Marion, O
Mead, John A, & Co, 7 Broadway, New York
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, Boston, Mass
Thew Automatic Shovel Co, Lorain, O
Toledo Foundry & Machine Co, Toledo, O
Vulcan Iron Works Co, Toledo

Steam Specialties.
American District Steam Co, Lockport, N Y
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
d'Estè, Julian, Co, 15 Canal st, Boston
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Lunkenheimer Co, Cincinnati, O
Manning, Maxwell & Moore, 85 Liberty st, New York
Robertson, Jas L, & Sons, 192 Fulton st, New York
Union Steam Spec. Co, 151 Franklin ave, Scranton, Pa
(see also Separators, Oil and Steam.)

Steam Traps.
American Blower Co, Detroit, Mich
Buffalo Forge Co, Buffalo, N Y
Crane Co, Chicago, Ill
d'Estè, Julian, Co, 15 Canal st, Boston
Sturtevant, B F, Co, Boston, Mass

Steel Clips.
Streeter, H A 35 Indiana st, Chicago

Steel Flanges (Weldless).
Latrobe Steel Co, Girard bldg, Philadelphia

Steel Ties.
Koppel, Arthur, 68 Broad st, New York

Stone.
Bound Brook (N J) Crushed Stone Co
Leopold, J, & Co, 18 Broadway, New York
Thiel, August, Guttenberg, N J
Tomkins, Calvin, 120 Liberty st, New York

Street Railway Supplies.
Brill, J G, Co, Philadelphia, Pa

Street Sprinklers and Sweepers
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Edson Mfg Co, 255 Atlantic ave, Boston
Good Roads Machinery Co Kennett Square, Pa

Structural Steel and Iron Work.
Berlin Construction Co, Berlin, Conn
Brooks, T H, & Co, Cleveland, O
Eichleay, John, Jr, Co, Pittsburg
General Supply & Const'n Co, 8-10 Bridge st, N Y
Kratzer, W N, & Co, 3218 Smallman st, Pittsburg
Link Belt Engineering Co, Nicetown, Phila
Means & Fulton Iron Works, Birmingham, Ala
National Skylight & Const'n Co, 120 Liberty st, N Y
N J Foundry & Machine Co, 9 Murray st, N Y
North Penn Iron Co, 3d and Sedgley ave, Phila
Pedrick, E K, Co, 120 Liberty st, New York
Schreiber, L, & Sons Co, Cincinnati, O
Sharon Boiler Works, Sharon, Pa
Snare & Triest, 39 Cortlandt st, New York
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Streeter, H A, 35 Indiana st, Chicago
Tippett & Wood, Phillipsburg, N J
Walton Iron Co, Cincinnati
(see also Bridges and Buildings.)

Stump Pulling Machine.
Milne Mfg Co, 804 Eighth st, Monmouth, Ill

Submarine Armor (see Diving Apparatus).

Tacks, Thumb
Albrecht, C. R, 62 Fulton st, New York

Tanks.
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Hodge Boiler Works, East Boston, Mass
Pacific Tank Co, Los Angeles, Cal.
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, W B, & Sons, Pittsburg
Steel Storage Elevator & Const'n Co, Buffalo, N Y
Warren City Tank & Boiler Works, Warren, O
(see also Stand Pipes and Tanks.)

Tapes (Steel). See Measuring Tapes.

Tapping Machines (Pipe).
Smith, Anthony P, Mfg Co, Newark, N J

Tents.
Murray & Co, 329 S Canal st, Chicago

Test Borings (see Artesian Wells).

Testing Laboratories (see Laboratories).

Testing Machines.
Falkenau-Sinclair Machine Co, 109 N 22 st, Phila
Riehle Bros Test & Mach Co, 1424 N 9th st, Phila

Thermometers (Recording).
Bristol Co Waterbury, Conn

Tie Plates.
Diamond State Steel Co, Wilmington, Del
Railroad Supply Co, Bedford bldg, Chicago

Ties
Koppel, Arthur, 68 Broad st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Time and Cost Keeping.
Industrial Time & Cost Keep. System, Bantam, Conn

Time Detectors.
Am Watchmen's Time Detector Co, 234 B'way, N Y
Imhauser, E, & Co, 206 Broadway, New York

Trading Cloth.
Aloe, A S, Co, 414 North Broadway, St Louis
Favor, Ruhl & Co, 54 Park Place, N Y
Hardtmuth, L & C, 49 Barclay st, New York
(see also Instruments, Engineering, etc.)

Transformers.
General Electric Co, Schenectady, N Y

Trench Machines.
Carson Trench Machine Co, Boston, Mass
Potter Mfg Co, 2010 N W ave Indianapolis, Ind

Tubing (Flexible Metallic).
Moore, Chas C, & Co, 32 First st, San Francisco

Turbines.
Camden Water-Wheel Wks, Camden, New York
Dayton Globe Iron Works Co, 7 Ludlow st, Dayton, O
Leffel, Jas, & Co, Springfield, O
Poole, Robert, & Son Co, Baltimore, Md
Risdon-Alcott Turbine Co, Mt Holly, N J
Smith, S Morgan Co, York, Pa
Stilwell-Bierce & Smith-Valle Co, Dayton, O
Wood, R D, & Co, Philadelphia, Pa

Turnbuckles.
Cleveland City Forge & Iron Co, Cleveland
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Turntables.
American Bridge Co, New York
Boston Bridge Works, 47 Winter st, Boston, Mass
Chicago Bridge & Iron Co, Chicago
Columbia Bridge Co, Pittsburg
Fort Pitt Bridge Works, Pittsburg, Pa
Hunt, C W, Co, Richm'd Terrace, W N Brighton, N Y
King Bridge Co, Cleveland, O
Koppel, Arthur, 68 Broad st, New York
McClintic-Marshall Construction Co, Pottstown, Pa
Mo Valley Bridge & Iron Wks, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, O
Passaic Steel Co, Paterson, N J
Philadelphia Bridge Works, Pottstown, Pa
Phoenix Bridge Co, 1321 Arch st, Philadelphia
Virginia Bridge & Iron Co, Roanoke, Va
Wonham-Magor Eng. Wks, 29 Broadway, New York

Valve Boxes.
Cayuta Wheel & Foundry Co, Sayre, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Drummond, M J, & Co, 192 Broadway, N Y

Valves.
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Darling Pump & Mfg Co, Box E, Williamsport, Pa
(see also Hydrants and Valves.)

Valves (Gas).
Campbell, J B, Brass Works, Cascade st, Erie, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Ludlow Valve Mfg Co, Troy, N Y
Roots, P H & F M, Co, Connersville, Ind

Valves (Gate).
Cayuta Wheel & Foundry Co, Sayre, Pa
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Crane Co, Chicago, Ill
Millar, Chas, & Son Co, Utica, N Y
Walworth Mfg Co, Boston, Mass
Wood, R D, & Co, Philadelphia, Pa

Valves (Pressure Regulating).
Ross Valve Co, Troy, N Y
(see also Pressure Regulators.)

Valves (Steam).
Cayuta Wheel & Foundry Co, Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Ludlow Valve Mfg Co, Troy, N Y
Lukenheimer Co, Cincinnati, O

Valves (Stop).
Foster Engineering Co, Newark, N J
Reading Foundry Co, Ltd, Reading, Pa
Thompson, J, & Co, Philadelphia

Varnish and Colors.
(see Paints.)

Vault Lights.
Brooks, T H, Cleveland, Ohio
Tucker & Vinton, 156 Fifth ave, New York

Ventilators.
Buffalo Forge Co, Buffalo, N Y
Merchant & Co, Inc, Philadelphia, Pa

Vises (Parallel).
Merrill Bros, 467 Kent ave, Brooklyn

Wagons and Carts.
Auburn Wagon Co, Martinsburg, W. Va
Austin, F C, Mfg Co, Harvey, Ill
Climax Road Machine Co, Marathon, N Y
Columbia Wagon Co., Columbia, Pa
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
U S Sanitary Co, Washington, D C
Watson Wagon Co, Canastota, N Y
Western Wheeled Scraper Co, Aurora, Ill

Water Motors.
Backus Water Motor Co, Newark, N J

Water Softening Plants.
Industrial Water Co, 126 Liberty st, New York
Kennicott Water Soft Co, 408 Great North. bldg, Chic
N Y Continental Jewell Filtration Co, 15 Broad st, NY
Patterson, D W, Harrison bldg, Philadelphia, Pa
Pittsburg Filter Mfg Co, Pittsburg

Water Storage Systems.
Acme Water Stor & Const'n Co, Park Row bldg, N Y

Water Wheel Governors.
(see Governors, Water-Wheel.)

Water Wheels.
Cassel Auto Water Motor Co, Seattle, Wash
Doble, Abner, Co, Fremont & Howard, San Francisco
Pelton Water Wheel Co, 134 Main st, San Francisco
(see also Turbines.)

Water-Works Tools and Supplies.
Flint & Walling Mfg Co, Kendallville, Ind
Smith, A P, Mfg Co. Newark, N J

Well Drilling Machinery.
American Well Works, Aurora, Ill
Cook Well Co, St Louis, Mo
Star Drilling Machine Co, 104 Fulton st, New York
Williams Bros, Ithaca, N Y

Wharf and Pier Builders.
Atlantic, Gulf & Pacific Co, 15-21 Park Row, N Y
McMullen, Arthur, & Co, 13-21 Park Row, New York
O'Rourke, John F, Park Place, N Y
Phoenix Bridge Co, Phoenixville, Pa
San Francisco Bridge Co, 220 Market st, San Francisco

Wheelbarrows.
Cockburn Barrow & Machine Co, Jersey City, N J
Syracuse Chilled Plow Co, Syracuse, N Y
Steubner, G L, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill

Whistles.
Crosby Steam Gage & Valve Co, Boston
Lunkenheimer Co, Cincinnati, O

Windmills.
Flint & Walling Mfg Co, Kendallville, Ind
Temple Pump Co, 15th Place, Chicago
U S Wind Engine & Pump Co, Batavia, Ill

Wire, Wire Rope and Cables.
American Steel & Wire Co, New York & Chicago
Broderick & Bascom Rope Co, St Louis
Leschen, A, & Sons Rope Co, St Louis
Macomber & Whyte Rope Co, 21 S Canal st, Chicago
Roebling's, John A, Sons Co, Trenton, N J
Trenton Iron Co, Trenton, N J
Williamsport Wire Rope Co, Williamsport, Pa

Worm Gearing.
Morse, Williams & Co, Philadelphia, Pa

Wire Fence (see Fencing).

Wood Preserving (see Creosoting).

Wrenches.
Keystone Drop Forge Wks, 20th & Clearfield sts, Phila

TURN TO PAGES XXIV-Y

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